DOCUMENT RESUME

ED 238 330 HE 016 857

TITLE	Higher Education in Asia and the Pacific. Bulletin of the Unesco Regional Office for Education in Asia and the Pacific, Number 24.
INSTITUTION	United Nations Educational, Scientific, and Cultural Organization, Bangkok (Thailand).
PUB DATE	Apr 83
NOTE	210p.
AVAILABLE FROM	Unesco Regional Office for Education in Asia and the Pacific, P.O. Box 1425, General Post Office, Bangkok 10500, Thailand.
PUB TYPE	Collected Works - Serials (022) -- Reference Materials - Bibliographies (131) -- Reports - Descriptive (141)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	College Role; Cultural Exchange; *Developing Nations; Educational Change; *Educational Trends; *Foreign Countries; *Higher Education; *International Relations; Sciences; Technical Assistance; Technological Advancement
IDENTIFIERS	*Asia; Bangladesh; China; India; Indonesia; Japan; Malaysia; *Pacific Region; Pakistan; Philippines

ABSTRACT

Information on higher education in Asia and the Pacific, reports on 13 countries of the region, five essays, and a bibliography are presented. After a brief review of trends and developments in higher education in the Asia and Pacific region, reports are provided for the following countries: Bangladesh, China, India, Indonesia, Japan, Malaysia, Pakistan, the Philippines, the Republic of Korea, Singapore, Sri Lanka, the Socialist Republic of Viet Nam, and Thailand. The five essays by scholars from Asia and the Pacific give perspectives on higher education into the twenty-first century. These critical analyses consider the external influences on universities of the region and propose arguments for developing science and technology as well as for greater emphasis on international cooperation for development and on the cultural heritage of Asian and Pacific countries. The bibliography is a selection of titles from the library of the Unesco Regional Office for Education in Asia and the Pacific. The titles are publications of the last 5 years published largely in the region and by Unesco. In addition to a section on international/general references, the bibliography consists of sections on Asia and the Pacific and on specific countries. (SW)

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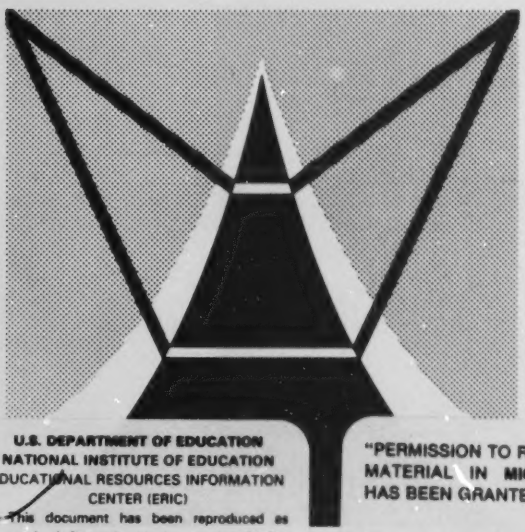
BULLETIN

of the Unesco Regional Office for Education in Asia and the Pacific

Number 24 April 1983

Higher Education in Asia and the Pacific



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"Higher education in Asia and the Pacific", *Bulletin of the Unesco Regional Office for Education in Asia and the Pacific* (24):i-vi, 1-150, April 1983.

Bibliography: p. I-XXXVI

1. HIGHER EDUCATION – ASIA. 2. SCIENCE EDUCATION – ASIA. 3. VOCATIONAL EDUCATION – ASIA. 4. HIGHER EDUCATION – INTERNATIONAL CO-OPERATION – ASIA. 5. INTERCULTURAL EDUCATION – ASIA. 6. EDUCATIONAL SOCIOLOGY – ASIA. I. Unesco. Regional Office for Education in Asia and the Pacific, Bangkok.

378.5

BULLETIN

of the Unesco Regional Office for Education in Asia and the Pacific

Number 24 April 1983

Higher Education in Asia and the Pacific

BANGKOK

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Published by the
Unesco Regional Office for Education in Asia and the Pacific
P.O. Box 1425
General Post Office
Bangkok 10500, Thailand

Printed in Thailand

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PREFACE

This Bulletin is in four sections. Section One provides an overview of higher education in Asia and the Pacific.

Section Two comprises, in the main, country reports from Asian countries:

Bangladesh	:	historical development, major issues and constraints, trends and new developments;
China	:	modernization and growth, curriculum and specializations, 'key' institutions, part-time education;
India	:	characteristics of higher education, problems, new developments;
Indonesia	:	problems and issues, role of the university, innovations, student life;
Japan	:	plan to consolidate higher education, achievements, greater flexibility, university entrance examination system, criteria for university entrance, scholarships and student loans;
Malaysia	:	historical perspective, reform and innovations since 1975, current issues and problems;
Pakistan	:	development programme, role of the University Grants Commission, innovations, co-operation with other countries;
Philippines	:	enrolment and aspirations, goals, quality, prospects for higher education;
Republic of Korea	:	ancient legacies, university expansion, private institutions, innovations, expansion of graduate schools;
Singapore	:	origin of higher education, response to rapid change, higher education in the 1980s, demand for engineering manpower;

Sri Lanka	:	current major issues, administration and management, staff development, innovations, promotion of research, student selection and welfare, inter-country and regional co-operation;
Socialist Republic of Viet Nam	:	historical development, higher education today, training, curriculum, scientific research, reforms, international co-operation;
Thailand	:	national scheme of education, diversification and growth, historical perspective, present situation, expansion and consolidation.

In Section Three scholars from Asia and the Pacific give their views on higher education into the twenty-first century. They give a critical analysis of the external influences on universities of the region and put forward compelling arguments for not only developing science and technology but placing more emphasis on international co-operation for development and the cultural heritage of countries in Asia and the Pacific.

The Bibliographical Supplement in Section Four comprises recently written reference materials. Each entry provides complete bibliographical information and the addresses of sources. The Documentation Centre of the Unesco Regional Office would welcome further contributions from readers. □

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SECTION ONE

TRENDS AND DEVELOPMENTS IN HIGHER EDUCATION IN ASIA AND THE PACIFIC

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

TRENDS AND DEVELOPMENTS IN HIGHER EDUCATION

Introduction

This Bulletin deals with higher education in the Asia and Pacific region, revisiting a theme which was presented earlier in the Bulletin more than a decade ago in 1972. During the intervening period, the countries of the Asia and Pacific region, have witnessed phenomenal growth and changes in many aspects of higher education. The present issue traces the salient features of some of those developments.

The publication draws its materials from two major sources namely, country papers presented at Unesco sponsored meetings by several countries and articles contributed to this issue by persons closely connected with higher education in their respective countries. These are followed by a bibliography of reference materials.

The region of Asia and the Pacific containing more than half the population of the world has been the nursery of many civilizations and the seat of famous institutions of learning. For centuries these seats of learning, encompassing the entire length and breadth of Asia, contributed powerful currents of thought. This situation altered when the industrial era began and let loose new economic and social forces. In the last few decades a new upsurge has been developing, a search for new orientations and responses to new challenges. Higher education is very much at the cross-roads of these challenges.

Given the vastness of the region, its history and the diversity of its socio-cultural context, wide variations are to be found in the systems of higher education. The highly industrialized countries with a relatively stable political system have a long tradition of organized higher education. There are others with old cultural and educational traditions which are attempting to adapt higher education systems to the exigencies of modernization and socio economic development; then there are some countries which are in the process of building up their higher education systems and of broadening the access to higher education to ensure equity and social justice.

While differences exist between the countries, the systems of higher learning found in the region are largely patterned on the Western models. By and large, the administrative structures, the organization of curriculum, the instructional methods and materials and the standards used to judge performance continue in most cases to be extensively influenced by these models; perhaps more so in the countries with a colonial past. Nevertheless, a shift from these traditions and practices is in evidence and efforts are under way in many countries to redress the systems so as to suit their particular needs and culture. New national policies on higher education are emerging in many countries of the region.

Increasing demand

The recent growth in higher education, particularly in the developing countries of the region, has been characterized by a spectacular rise in enrolment and the number of institutions of higher learning. The following table which contains gross figures on enrolment and institutions in respect of six countries gives a general view of the scale of expansion that has taken place in the last 30 or so years.

Table 1. Institutions of higher education and enrolment

Country	Year	No. of Institution		Enrolment
Bangladesh	1947	1	university and 46 colleges	21,700
	1980	6	universities and 348 colleges	435,000
China	1947	207	institutions of higher learning	178,750
	1980	675	institutions of higher learning	1,144,000
India	1947	16	universities and colleges	230,000
	1979	120+	universities and 4,500 colleges	2,650,000
Indonesia	1950	2	universities	10,000
	1979	241	universities and their equivalent	250,000
Pakistan	1947	1	university and 26 colleges	–
	1977	15	universities and 261 colleges	–
Republic of Korea	1955	74	universities and colleges	85,000
	1980	85	universities and university colleges	400,000

Source: The country reports included in this Bulletin.

This impressive expansion in higher education enrolment may be attributed to a combination of several factors. Notable among these are a general upsurge of demand for education (particularly in some countries immediately after their independence); recognition of higher education as a means for development; population growth and the consequent increase of enrolment at the first and second levels; improvement in the general standards of living; and rapid urbanization.

With the increase in numbers, the demographic and social composition of the campuses has diversified. Young men and women from different strata of society are now seeking higher education. There has been a perceptible and welcome rise in the number of women students. Furthermore, there is a trend for those already employed to return to the higher education institutions to improve their intellectual and social prospects by upgrading their qualifications.

It is evident that the trend will continue. Nevertheless, with increasing budgetary stringencies combined with the pressure for change for higher education systems in the countries of the region, as anywhere else, the 1980s may not be as smooth as the 'golden years' of 1960s and 1970s.

Relevance

One of the persistent criticisms against the institutions of higher education in the region in general has been that, by and large, they have failed to respond adequately to the development needs of society. As the Programme Development Meeting convened by Unesco observed:

> It is increasingly felt that the institutions of higher learning must move out of the ivory tower and relate themselves to individual aspirations and societal needs. Such an adaptation is indispensable if higher education is to contribute to a country's development. This will require a reorientation of structures, contents and methods, and launching of research studies on themes that are of priority concern for the development of each country.[1]

1. Regional Co-operative Programme in Higher Education for Development, *Report.* Unesco, Bangkok. 1981.

In spite of obvious difficulties, however, many countries are taking significant steps towards diversifying their system and reorienting it. There is a perceptible shift in emphasis towards technical and professional education and away from arts and humanities. Greater attention is also being given to applied research adapted to the demands of development-oriented societies. The country reports presented in this publication describe some of the important changes initiated by national policies.

Quality

Another important concern manifested in the current debate on higher education relates to quality. The very fast growth in student enrolment and the number of institutions, without corresponding provision for facilities and qualified teaching staff, has put most systems of higher education under heavy strain. Large dropouts of students from courses, high rate of failure in examinations, the unusually long time taken by many students to finish a given course of study and growing unemployment and underemployment among university graduates are some of the manifestations of the problem.

This dilemma of 'equity' and 'quality' is reflected in several policy documents in higher education. The Five-Year Philippine Development Plan (1983-1987) for example, stresses the twin goals of higher education: democratization of access and maintenance of quality. In order to ensure both quality and equity, new criteria for student admission have been introduced, for example in Malaysia, the Republic of Korea and Sri Lanka. Indonesia, Malaysia and Pakistan have embarked upon programmes of university faculty development. Similar initiatives are also taking place in other countries of the region.

Planning and management

Despite its achievement, higher education in the region poses numerous complex problems in terms of its planning and management. In many countries the problems have been exacerbated by a proliferation of new institutions, diverse patterns of institutional governance, scarce resources and lack of management expertise. Times have changed and contrary to the old notion that 'universities are really never planned or managed', the fact today is that there is a growing public demand for more accountability, for greater efficiency and for evidence of contribution of this sector to development.

The demand for accountability seems to have set a trend, particularly in the developing countries, towards more centralized planning at the national and state levels to regulate the setting up of new institutions and departments, the admission of students, the allocation of funds, and the appointment of teaching and other staff. Although wide variations exist between the countries in regard to government involvement in the planning and administration of higher education, new ministries, departments, bureaux and other offices of higher education have recently come into existence for the purpose of policy formulation, co-ordination and overall supervision. On the other hand, there is evidence that the institutions of higher education do no longer tend to remain insulated from analytical examination of their performances and effectiveness vis-a-vis society's expectations and development goals; there is an increasing awareness of the need for self-assessment and accountability. As a result, they are making serious efforts to increase their internal productivity and efficiency through institutional development policies, reorientation of administrative practices and procedures, improvement of structures and various other means.

Language

Another development which has far reaching consequences for higher education in the region relates to the medium of instruction. Several countries of Asia which earlier used foreign languages now use their national languages as the medium of instruction in the universities and other tertiary institutions.

The transition, however, has not proved to be easy and simple for various reasons. As one author of this publication puts it, the move has been complicated by the lack of trained teachers capable of using the national language, lack of library and teaching materials, and the need to continue to use an international language for scholarly pursuit. The very task of writing textbooks and translating journals and other academic work and to ensure that these are adequately available is stupendous. It calls for resources which are not always within the means of many of these systems. Although vigorous efforts are being made to cope with the problems, higher education institutions in these countries will continue to struggle with them yet for some years to come. Perhaps, in the final analysis, the quality of their teaching and scholarly work will be the indicator of how the problems have been faced.

Innovations

The expansion of higher education in the regions is characterized not only by the linear growth of existing institutions and systems, it also reflects many significant innovations in curriculum, instructional methodologies, staff development, institutional structures, and use of technology. References have been made to some of these innovations in the reports presented in the bulletin. One which has become prominent and is spreading rapidly in the region is the use of distance education techniques for teaching.

Although the impact is still limited, distance education is assuming an important place. It is regarded as a means to broaden access to higher education and achieve equity at a relatively low cost. In a survey conducted recently by the Unesco Regional Office for Education, Bangkok, 49 institutions from eight countries in the region reported an enrolment of nearly 600,000 students. They offer a wide range of courses including science, humanities, social sciences, engineering, technology, business management and law. It is notable that about two-thirds of these institutions first introduced their distance education programmes in the 1970s.

Conclusion

The universities and other institutions of higher education occupy a unique position in most countries of the region and will continue to function as a powerful instrument for economic, social and cultural change. Being at the apex of the educational system they take responsibility for creating and transmitting new knowledge and for producing the highly skilled manpower which society depends on for its progress. Seen from this point, the large number of universities in the region constitute a formidable intellectual resource and offer many opportunities for broad based co-operation among themselves for mutual benefit. □

SECTION TWO

HIGHER EDUCATION IN COUNTRIES OF THE REGION

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

BANGLADESH

by Kazi Fazlur Rahman

Higher education in Bangladesh is offered in universities, degree colleges, university institutes and institutions awarding degree level professional courses such as medicine and engineering. Degree colleges and professional institutions are affiliated to different universities. The duration of a first degree course is two or three years—two years for a pass degree and three years for an honours degree after twelfth grade. The duration of the master's degree course is two years for those with a pass degree and one year for those with honours. The duration of the first degree course in Engineering and Agriculture is four years and in Medicine five years. Students passing the Higher Secondary examination can go directly to university. Alternatively they can go to a degree college for both pass and honours courses. In addition to these general and professional institutions, there are also a number of *alia madrasahs* (institutions of higher religious education) which offer degree level courses.

Historical development

The present system and structure of higher education in Bangladesh owes its origin to the days of British rule in the subcontinent. Varying degrees of government and community initiative went into the establishment of individual institutions. While universities were mainly built by the government, a large number of colleges were set up as the result of community effort.

The history of higher education in Bangladesh is much older than the establishment of the first university (Dacca University in 1921) in what now constitutes the territorial area of Bangladesh. The oldest of the colleges, beginning with Dacca College in 1841, were all founded in the previous century. They came into being at a time when not much of any other kind of formal and institutionalized higher education existed in the subcontinent, although there existed an elaborate network of basic education from before the days

of the British rule. The debate on the question of crucial choice between classical, oriental learning on one hand and modern Western learning on the other was settled in favour of the latter during the first half of the nineteenth century.

The six universities already functioning, and another in the process of being set up, are fully self-governing institutions, each established by a legislative enactment. They enjoy full autonomy in all academic matters such as developing their own curriculum, setting examinations and awarding degrees (including affiliated colleges) as well as internal administration. Ninety-five per cent of their total expenditure is provided by the Government as block grants.

The University Grants Commission was set up in 1973 to co-ordinate the activities of the universities, particularly in the areas of staff development and training. It is also charged with the task of assessing the financial needs of the universities, and government grants are channelled through it.

The most significant development over the last 30 years has been the tremendous lateral expansion of the system. From one university in 1947, with 1,700 students, there are now six fully-functioning universities with nearly 35,000 students. From 46 colleges offering pass degree courses there are now 348, with enrolment up from 20,000 to nearly 400,000, and of these colleges as many as 26 offer honours and masters level courses. Some of the colleges are now proposed to be converted to independent degree-awarding university colleges. In addition, the 474 *madrasahs*, which are gradually being integrated with the general stream, have a total enrolment of nearly 136,000 at post-secondary level.

The growth of technical and professional education as compared to the general stream, has been extremely slow. The total number of institutions—polytechnics, monotechnics and professional colleges such as medical engineering and agriculture—is only 79 with a total enrolment of 30,000 which constitutes about 7 per cent of the post-secondary general stream enrolment.

Even within the higher education system itself, the imbalance persists. Nearly 70 per cent of all enrolments continue to be in the arts and humanities; producing large numbers of unemployed, and in many cases unemployable graduates. On the other hand, the huge public expenditure on engineering, medical and scientific education

produces substantial private benefits to many graduates who leave the country as part of the massive 'brain drain' depriving the public of their skills.

The cumulative result of unbalanced development between technical and general education at the higher level and the rapid linear expansion of general higher education on traditional lines in areas where there is hardly any market demand, is a very high rate of unemployment among the graduates. Expansion of higher education was completely unrelated to the manpower needs of the country and this enormous growth was according to one view, possible only at the expense of the primary, secondary and technical sectors of the education system. The following table from the draft Second Five-Year Plan showing the original allocation and actual expenditure during the First Five-Year Plan (1973–1978) and Two-Year Plan (1979–1980) amply corroborates those views.

Allocation and expenditure under development plans 1973–1980

Figures in million taka*

	Allocation	Percent of total allocation	Actual expenditure	Percent of actual expenditure
Primary education	800.38	17.63	341.14	13.30
Secondary education	886.53	19.53	301.11	11.64
College education	385.49	8.49	147.54	5.69
University education	571.52	12.59	683.04	26.39
Technical education	886.33	19.52	470.73	18.19
Teacher education	282.35	6.22	79.21	3.06
Other educational activities	727.43	16.02	565.79	21.73
	4,540.03	100.00	2,588.56	100.00

* Approximately 23.80 Bangladesh taka = One US dollar

The draft Second Five-Year Plan document sums up the higher education situation in the following words:

> Higher education in Bangladesh was unplanned and its growth was phenomenal during the last 32 years . . . Furthermore education imparted in the universities and affiliated colleges has little relevance to the pressing needs of the economy. Moreover, it entails enormous wastage both in physical and financial terms. The examination results of the universities are also poor.

> As a result there has been an erosion of confidence in higher education in recent years. The reason is obvious. University education has ceased to be relevant and innovative in its complex relationship with the society; what goes on as higher education in the country is possibly supply-induced intellectual inflation. A feeling is fast gaining general acceptance that a university is a place to keep the young people off the labour market.

This indeed constitutes a serious indictment, particularly when 90 per cent of the recurrent budget and 100 per cent of the development budget of the universities are grants from the public exchequer making higher education virtually fee-free (the nominal fee paid by a university student constitutes less than 2 per cent of the per-student current expenditure).

Major issues and constraints

The major issues and constraints in higher education in Bangladesh are: (1) phenomenal growth with uneven geographical distribution creating an urban-rural gap; (2) unplanned expansion having no relation to the market demand; (3) lack of participation of the people and the potential employers in the realm of higher education; (4) absence of proper guidance and counselling services for students; (5) outdated system of government grants-in-aid; (6) a scholarship system discriminating, in the name of equal opportunity, against the disadvantaged section of the community; (7) under-utilization of built-in facilities; (8) complete lack of any involvement on the part of universities and colleges in non-formal, community, extension or extramural education; (9) deteriorating academic management (the time required by a student to complete an honours course of three years' nominal duration is now nearly five years in most universities); and (10) inadequacy of facilities for women and disadvantaged groups, despite which the enrolment of women has nearly doubled since 1973.

Trends and new developments

Since the emergence of Bangladesh as an independent country in 1971, efforts have been continuing in the education sector to bring about changes to meet the socio-economic needs of the people. However, such efforts failed to produce much impact in the higher education system. Questions have been raised whether much of it is

relevant to the economic needs and designed to meet specific national objectives. Both the academic community and general public are becoming more conscious of the need to relate higher education to the need to develop human resources.

Recent trends and developments centre around (a) efforts to tackle the issues; and (b) the constraints mentioned above. The main vehicle for these efforts is the Bangladesh Second Five-Year Plan which came into operation in July 1980.

The objectives of the Second Plan in the field of higher education (covering both universities and degree level colleges) are to:

1. consolidate and make maximum use of existing facilities;
2. rationalize enrolment in science, engineering and technology, liberal arts and social sciences and professional education on the basis of the needs of the economy;
3. introduce selectivity in admission; and
4. reduce the urban-rural gap and increase the enrolment of women and disadvantaged groups.

To realize the above objectives, the Second Plan proposes to:

1. develop all the existing colleges at the sub-divisional headquarters;
2. develop one women's college in every district;
3. provide science teaching facilities in all colleges;
4. introduce evening and correspondence courses leading to an open university system which will call for extensive use of media;
5. upgrade some colleges into fully-fledged university colleges or in the case of engineering education, into self-governing institutes of technology;
6. open faculties of agriculture in general universities;
7. integrate higher levels of religious education with scientific and technical education by setting up an Islamic University;
8. raise the salary levels in the higher education system to attract and retain qualified teachers;
9. strengthen the co-ordination and supervisory role of the University Grants Commission;

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10. institute a comprehensive scholarship system for helping talented students; and
11. improve the internal efficiency of the system of university government.

It is expected that through these programmes, by the end of the current plan period in 1985, there will be an increase of about 30 per cent in enrolment, the bulk of which will be accounted for by higher female enrolment and additional places for science and technical education.

Increased use of Bangla (Bengali), which is the national language of the country, at the tertiary level of education has been another very significant development. This did not, and could not, mean entirely dispensing with the use of English which is also used. However, with the development of the national language as a medium of instruction, the production of textbooks and reference books including translations of books of foreign origin has not been adequately developed as yet. Here is a possible area in which Bangladesh could benefit from the experiences and co-operation of other countries similarly placed.

International co-operation in higher education has generally consisted of facilities provided under bilateral arrangements with developed countries like Australia, the United Kingdom and the United States of America and institutions in such countries that offer facilities for staff development. Colombo Plan and multi-lateral arrangements within the Commonwealth also extended substantial help in this area. As this kind of aid has not always been strictly relevant to the needs of the society there is now an increasing emphasis on inter-country co-operation within the Asia and Pacific region.

In Bangladesh to-day, the planners, managers and practitioners of higher education must deal with various critical areas of immense complexity such as planning and management; increased learning needs and educational demands; costs and financing; employment prospects of graduates; educational inequalities and inequities; and regional and international interaction and co-operation, if they are to cope with the stupendous task of transforming an age-old system of elitist education of foreign origin into a relevant, meaningful and effective tool of human resources development. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

CHINA

by Wang Cheng-xu and Li Ping

Introduction

Upon the founding of the People's Republic of China in 1948, the country set out immediately to restore and develop its national economy. At the same time, successive readjustments and reforms were carried out in the field of higher education so as to meet the development needs of industry, agriculture, science and culture. The Chinese government and the people are carrying out long and untiring efforts in developing higher education and have achieved considerable success.

However, Chinese higher education has undergone twists and turns in its development. The period from 1949 to 1966 witnessed relatively steady and fruitful progress. The ten years after 1966 might be called the 'ten-year calamity' for Chinese education, especially higher education. Universities and colleges enrolled no new students for a period of six years and Chinese higher education came to a standstill or semi-standstill. It drifted away from its course of serving the development of the national economy and science and culture.

Modernization and growth

The Government has set the goal of realizing the 'four modernizations'.* The modernization of science and technology is the key and education is the foundation. Higher education is playing an even greater role in the process of the 'four modernizations'.

With the speedy development of the Chinese socialist economy along with science and technology, higher education in China has produced a huge contingent of qualified specialists for various fronts of national construction. In the last 32 years, Chinese institutions of higher learning have turned out 3.2 million graduates, 18 times the

* These four modernizations are; to modernize industry, agriculture, national defence and science and technology.

total number of college graduates in the 20 years before liberation. They have made important contributions to industrial and agricultural production and to the development of science, culture and education.

In recent years, the Chinese government has given increased attention to both quantitative and qualitative aspects of higher education. In 1947, the peak year in the development of Chinese higher education before liberation, there were 207 institutions of higher learning. Now there are 675 institutions or 3.26 times more than in 1947 with about 1,144,000 students and 246,900 teachers; and increase of 6.4 times and 13.6 times respectively over the same period.

Curriculum and specializations

At present, there are several different types of institutions of higher learning offering a wide range of specialities. On the whole, they meet the needs of the developing national economy. Among the 675 institutions there are 32 comprehensive universities, 203 colleges (or universities) of science and engineering, 66 colleges of agriculture and forestry, 178 teachers' colleges, 109 colleges of medicine and pharmacy, 10 colleges of languages, 30 colleges of finance and economics, 7 colleges of political science and law, 11 colleges of physical education, 26 colleges of arts and 9 colleges of other disciplines. There are altogether 1,039 departments and specialities in these institutions. The two types of courses are the regular college course, which generally takes four years (some five), and the professional training course of two to three-years duration.

Due to the needs of industrial development, teacher preparation and medical services in the country, more than two-thirds of the institutions of higher learning are engineering, medical and teachers' colleges. Fewer colleges of arts, finance and economics and law have been established and to overcome the imbalance, more of these colleges are being built.

Key institutions of higher learning

The building of 'key' institutions of higher learning has been an important measure in the development of higher education. They are bi-centric, at once centres of instruction and centres for scientific research and are the backbone of higher education. There are now 96 of these institutions of which 29 are within the jurisdiction of the

Ministry of Education and 67 are under other ministries of the government. Most have a longer history and stronger faculty, their experimental equipment is in better condition and they have sufficient facilities for research work. Personnel and material resources have been mustered to strengthen these 'key' institutions. As a rule, they are given prior consideration as regards student selection, staff allocation, renewal of equipment, provision of audio-visual aids, study abroad and international exchange so that they will become first-rate schools and bring up first rate scholars.

At the same time, there is a plan to build up a large number of key specialities and key disciplines. They are given priority as regards staff, equipment and financial support and are required to achieve success in a shorter period of time and turn gradually into important centres of learning.

Most of the institutions of higher learning in China include a large number of disciplines. They provide favourable conditions for carrying out scientific research with the combination of science and technology (e.g. engineering students should have a more solid foundation in science) and the interpenetration between sciences and arts (e.g. arts students should study science and science students should study arts) to facilitate the development of new fields of science. In accordance with the needs of the country, every effort has been made to establish favourable conditions for scientific research and many research institutes of social and natural sciences have been set up. These institutes are undertaking a large number of key research projects and are making great contributions to the country.

In order to strengthen educational research; to make the educational science suit the national characteristics; to learn from the valuable experiences of other nations and to carry out work in accordance with objective laws so as not to take roundabout routes in their work; institutes of educational research have been established in many universities to carry out educational experiments, sum up advanced educational experiences, compile textbooks of educational subjects, translate educational classics and study new educational trends in other lands.

More than 300 schools of higher learning have enrolled postgraduate students to be trained as professionals to meet the needs of socialist modernization. In 1980, there were about 17,700 postgraduate students in the universities and colleges. In addition, there

were about 4,000 post-graduate students in the research institutes. Enrolment of post-graduate students working for the degree of M.A. and Ph.D. took place in 1981.

Part-time education

Part-time higher education for the workers and peasants is an integral part of the Chinese higher educational system. It consists of television universities, night colleges and higher correspondence courses. With the development of industrial and agricultural production, higher education for the workers and peasants is thriving in China. In 1980, there were about 1.5 million workers and peasants attending part-time higher education courses.

In order to open the avenues of learning more widely and encourage self-instruction, the government is experimenting with a self-instruction examination system. Those who successfully pass the examination will have their academic attainment recognized by the government.

Readjustment oriented policy

At the moment, the higher education front is implementing, in an all-round way, the policy of 'readjustment, restructuring, consolidation and improvement'. In order to make education develop steadily and fruitfully and to meet the needs of socialist modernization, it is imperative to resolutely implement the readjustment oriented policy. The readjustment of education involves solving the following two problems:

One is the readjustment of the proportionate relationship between education and the economy. The development of education should keep pace with the development of the economy and both should be developed in a planned and proportionate way. First of all, there should be an improved knowledge of the role of education in the development of the national economy. Education should not be regarded as consumption. In this respect, the system has had experiences and lessons and the government has decided to gradually increase the educational investment.

The other is the solution of the problem of proportionate relationship within education itself. The internal relationship between the various branches of education appears to be disproportionate. Because of the damage done in the 'cultural revolution', the

structure of all secondary education tended to be the same. Only a small fraction of the secondary school graduates could get into universities. Due to lack of vocational training, those who failed found difficulty in getting jobs. To remedy this, a restructuring of secondary education is proceeding by providing vocational courses in the general secondary schools on the one hand and establishing more technical schools on the other. The restructuring process has been carried on for several years and has achieved many fruitful results. The proportionate relationship between schools of higher learning and the secondary technical schools is also being readjusted.

There has been a certain degree of overlapping and irrationality regarding the set-up of institutions of higher learning as well as departments and specialities. Overall planning and their rational distribution are among the important problems to be faced in the readjustment of higher education in China.

Higher education is being consolidated and improved under the guidance of the Chinese government's fundamental principles as well as Chinese educational policy. University management is being strengthened and improved, there are more qualified teachers, the political and ideological education of the students has been strengthened and the revision of instructional programmes, the compilation and translation of textbooks, the study of new methods of teaching and the application of audio-visual aids are among the problems being solved.

The readjustment of higher education is a difficult and complex task which must relate to practical conditions, allow for scientific investigations and build on China's rich historical experiences and the valuable experiences of other nations. In this way higher education can surely adjust itself to make a contribution to the cause of building China into a powerful modern socialist country. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

INDIA

by M.R. Kolhatkar

Introduction

Higher education in India has a long historical past. Universities like Nalanda (located in Bihar) were well known all over the world. The Chinese pilgrims visiting India between 400 B.C. and A.D. 800 referred in their travel accounts to the excellent work being done by these universities. The existence of flourishing institutions of higher learning in ancient India is also attested by significant developments in intellectual fields like literature, literary criticism, philosophy, logic, medicine, mathematics and astronomy. Universities as institutions appear to have declined in the Middle Ages but the pursuit of higher learning was continued by individual scholars. After the advent of the British in the 19th Century, higher education in India was put in a Westernized mould with English as the medium of instruction and with the introduction of new subjects. The first three universities in the modern sense were established in the three metropolitan towns of Calcutta, Bombay and Madras in 1857. A conscious attempt to regulate governance of higher education was made with the University Act 1904. By 1947, at Independence, there were 16 universities in India.

Characteristics of higher education in India

The characteristics of the higher education system in India are dominated by the scale of the educational system of which higher education is a part; the expansion in various dimensions of higher education and institutional diversity.

Scale. As a result of the system of education developed during the last 150 years, India has now more than 120 universities or similar institutions and 4,500 affiliated colleges. This has given India one of the largest trained high-level manpower bases in the world. This is not surprising in a country with a population of 683 million in 1981.

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Expansion. The expansion of higher education since Independence has been phenomenal. The student enrolment increased from 0.23 million in 1947-1948 to 2.65 million in 1979-1980. The number of institutions increased from 16 universities in 1947-1948 to 108 universities, 11 institutions deemed to be universities and 9 institutions of national importance in 1979-1980. In 1976-1977 there were 166,742 teachers in the universities. The total enrolment in collegiate general education courses in 1976-1977 was 5.1 per cent of the population in the corresponding age-group 17-23, of which the proportion of boys was 7.3 per cent and the proportion of girls was 2.8 per cent. The Plan and Non-Plan budgeted expenditure on higher education in 1980-1981 in the country as a whole was Rs. 3,750 million;* 13 per cent of the total expenditure on education.

Institutional diversity. India has a federal polity with States as constituent units. The subject of education, including higher education, is a concurrent one. In other words, both the state governments and Central Government can legislate in the field. Normally the establishment of universities in India is under state legislation. However, there are also a few universities which are established under a central enactment. Then there are central bodies which are concerned with general problems of co-ordination and maintenance of standards or of promotion of research in an all-India perspective. Against this background, the institutions in the field of higher education are categorized below.

a) There are about 85 State universities of the teaching and the affiliating type which cover not only Arts, Science, and Commerce subjects but also Medicine and Engineering.

b) After 1965, agricultural universities were established in various states concerned not only with imparting agricultural instruction but also with research and extension of research results to the field. There are 20 such universities.

c) Seven central universities were established in response to specific historical situations. Banaras, Aligarh and Delhi Universities were established prior to Independence. Visva-Bharati was established to fulfil the educational objectives of the Poet Rabindra Nath Tagore and Jawaharlal Nehru

* Approximately 9.46 Indian Rupees (Rs) = One US dollar

University was established to fulfil objectives like democracy, socialism and international understanding dear to Jawaharlal Nehru. Northeastern Hill University caters to three states in Northeast region and Hyderabad University is a Central University in the southern part of the country. There is also the inter-state University of Punjab at Chandigarh.

d) Some educational institutions have distinguished themselves in selected fields like rural reconstruction, social work and integrated education, though they are not universities in the traditional sense. These are institutions deemed to be universities. A leading example of the category is Jamia Millia Islamis in Delhi, established by the late Dr. Zakir Hussain who apart from being the President of India was also a distinguished educationist in the field of basic education. The Indian Institute of Science, Bangalore is also deemed a university. There are 12 such institutions.

e) There are nine institutions of national importance established by an Act of Parliament. These include the all-India Institute of Medical Sciences, Delhi, Post-graduate Institute for Medical Research and Education at Chandigarh, and the Indian Institutes of Technology.

f) There are also four Institutes of Management which, though not set up by an Act of Parliament, are also all-India institutions promoted by Central Government according to a predetermined pattern.

There are four categories of apex institutions set up for specific purposes relating to higher education.

1. The University Grants Commission (UGC) established in 1956 co-ordinates and determines standards in the universities and for that purpose makes maintenance, development and specified grants available to various institutions. All the universities and deemed universities and the colleges function under the umbrella of the UGC whose budget for 1980–1981 was Rs. 903 million.

2. The National Institute of Educational Planning and Administration undertakes research in educational planning and administration, provides training and consultancy services in the field and arranges orientation for senior administrators

from the Central Government and States and collaborates with other countries, especially in the Asian region.

3. As it was seen that the traditional department-faculty university framework was not conducive to the promotion and development of research in priority disciplines the Government established National Councils devoted to the promotion of research in specific disciplines. The Indian Council of Social Science Research was established in 1969, the Indian Council of Historical Research was established in 1972, the Indian Council of Philosophy was established in 1977 and it is now proposed to re-activate it.
4. The Indian Institute of Advanced Study at Simla provides an environment suitable for academic research and undertakes, organizes, guides and promotes advanced research in selected subjects in the Humanities, Indian Culture, Comparative Religion, Social Sciences and Natural Sciences. The institution, established in 1964, is to be restructured and re-organized by the Central Government.

Problems of higher education

Concomitant with expansion, there has been a proliferation of new colleges and universities in response to pressures which were not directly related to development planning objectives. The 79 universities in 1969–1970 increased to 108 in 1979–1980. During the period 1969–1974 the number of newly established arts, science and commerce colleges grew to 765 at a rate of almost 200 per year. This increased by another 329 colleges during the period 1975–1980 at a rate of 66 per year. Although the growth rate has apparently slackened, there is still a need to check this growth in the interest of standards of facilities and instruction. In 1972 the UGC Act was amended to restrict university grants only to universities declared by the Commission to be fit to receive such grants. This has checked the growth of sub-standard institutions to some extent.

The second problem of higher education is a lack of balance. Although there has been a phenomenal expansion in higher education, this expansion is restricted to particular regions of the country which have been traditionally advanced. Moreover, in any given region, the proportion of girls to boys receiving higher education is

low. There are also socially and economically backward communities, like scheduled castes who comprise about 15 per cent of the population of the country and scheduled tribes comprising about 7.5 per cent, which have lagged behind. The problems of first generation learners are essentially related to the problems of education of the backward regions and the backward communities. Both the Central and the State Governments have adopted conscious policies for promoting higher education among these communities. Places and scholarships in the institutions of higher education are being reserved in favour of scheduled castes and scheduled tribes in proportion to their population.

The third problem of higher education is to make the instruction relevant to the needs of the community. From the point of view of individuals, this prevents the oversupply of skilled personnel for certain jobs, thus creating the problem of educated unemployed. In 1980, the number of such persons was estimated at 3.47 million.

Lastly there are problems internal to the system of higher education which relate essentially to structure of governance, management and finance.

New developments

To deal with the expansion and the problems of higher education, the Sixth Five-Year Plan (1980–1985) aims to:

1. promote the values of secularism, democracy, national integration and dignity of labour throughout the educational system;
2. improve higher education courses so as to increase the component of learning from real life situations through participation in socially relevant activities;
3. consolidate existing facilities for higher education and programmes with minimum additional inputs for quality improvement and physical infrastructure and to co-ordinate higher education with opportunities for employment, especially self-employment and developmental goals;
4. promote selective growth in educational fields of national importance and social relevance such as the pursuit of scholarship and excellence in Basic Sciences and Humanities, development of scientific and technical manpower, human resource

development among weaker sections, socially handicapped groups and women, and to provide essential commodities needed by students at controlled prices; and

5. sensitize academic communities to the problems of poverty, illiteracy and environmental degradation through organized participation in poverty reduction and environment improvement programmes.

Guidelines. The UGC is to tailor its assistance to the requirements of the objectives of removal of regional disparities in higher education facilities and also to improve the standards and quality of education. Non-viable colleges will be assisted to become viable over a period of years. Assistance to colleges in backward districts and in tribal areas will be in accordance with relaxed norms. State Governments and universities will be encouraged to lay down criteria for opening new colleges so that non-viable colleges are not brought into existence in future.

So far as universities are concerned, the main emphasis is to be on improvement of standards and making extension an integral part of the activities of the institutions of higher education. Expansion of educational facilities both by way of opening new universities and university centres for post-graduate studies or new departments, has a low priority. An optimum balance between undergraduate and post-graduate stages of education will be maintained.

Universities which have reached a critical size and development will be asked to restrict enrolment in formal and full-time instructional programmes. Demands for increase in enrolment will be met through correspondence courses, extended and evening classes, by increasing enrolment in colleges and by allowing students to appear as private students. About 17 universities in India are already offering correspondence courses. Mysore University also follows an 'open' admission policy for its correspondence courses.

Re-organization of courses under new pattern of education. In the past, in many parts of the country, there was a matriculation course of 11 years followed by a four-year degree course (11 + 4). In the light of the recommendations of the Education Commission (1964–1966), the Central Government has adopted a 10 + 2 + 3 pattern of education. This refers to ten years' schooling followed by a two-year course, which for some students will be terminal and

vocational and which for others will be a pre-university course, followed by a three-year degree course or a professional course of varying duration. In the context of the new pattern, it has been decided to restructure the undergraduate course which would have the following parts:

Foundation courses. The new curriculum should provide a set of broad-based foundation courses in the three major areas of knowledge, viz., Humanities, Social Sciences and Sciences and these together with applied studies/projects and extension would be provided within 20 to 25 per cent of the time available for all studies in the three-year course. The purpose is to create a greater awareness of the social, cultural and natural environment.

Under the foundation courses, one may consider introducing themes such as Indian history and culture, history of the freedom struggle in India and other parts of the world; social and economic life in India, concepts and processes of development, alternative value systems and societies based thereon, culture of Asia and Africa (selected countries), Gandhian thoughts, history of science and society, scientific methods, science in everyday life and so on. Given the fact that the foundation courses are conceived as awareness courses, the responsibility for teaching them can be taken by existing teachers in related disciplines, after providing suitable, short-term orientation programmes, wherever necessary.

Core-programme. The remaining 75 to 80 per cent of the time available should be devoted to a core programme within each faculty which would provide the student with a broad exposure to several disciplines and an opportunity to study some chosen discipline or disciplines in depth. Universities may decide whether the core programme will consist of the study of several subjects with equal weight or the study of one or two subjects in depth along with some ancillaries. Any attempt at too narrow a specialization at the undergraduate stage should be avoided.

Applied studies projects. Applied studies/project work and field studies will be incorporated as an integral part of the core programme. The aim of providing such new subject groups including one applied area is not to make the student an expert in the applied area chosen but to enable him to understand the application potential and practical/field aspects of his disciplines and promote better

employment opportunities. In introducing subjects of an applied nature, universities may enlist the collaboration of user agencies like industries, business houses and national laboratories and relate them to emerging trained manpower needs. The teaching of subjects such as social sciences and biological sciences should be marked by an integrated and interdisciplinary approach. Further, where quantitative analysis is required, elements of mathematics and statistics need to be incorporated into the courses concerned.

Extension programmes. Extension programmes should also be introduced as a means of making courses and studies relevant to the needs of the society and oriented towards a solution of existing problems. Extension work should be integrated with the curriculum in order that it may have a beneficial impact on course content on the one hand, and the value system expected to be promoted by the academic programmes on the other. The UGC has offered assistance to the universities for restructuring the courses along the lines indicated above.

Linkage of university education with development of science and technology: The facilities in the university will be strengthened—to improve the quality of scientific/technological manpower. For this purpose selected universities will be given assistance to set up computer facilities, instrumentation centres and centres for advanced study in science. Universities will be encouraged to engage in research of a type having a linkage with research being carried out in various national laboratories and public sector enterprises with application in industrial and communication spheres.

Linkage of university with community: A research and development council will be set up in every university with representation from the university community and users. Such a council will plan relevant activities and monitor them and will also be effective for contact and communication with trade and industry.

Linkage of the university with development programmes: At the State level an appropriate forum will be set up to ensure close coordination among education, planning and executive effort. An inter-university council will be set up with representation from the universities and the Governmental agencies to involve them effectively with respect to programmes planned and activated in a complementary manner.

The universities will be encouraged to set up special coaching and training centres for weaker sections of the society. The programme of UGC and correspondingly of every university will have a special component plan for developing scheduled castes and also a tribal sub-plan for developing scheduled tribes.

The vocationalization of higher secondary education, restructuring of undergraduate courses and the promotion of post-graduate level research into practical problems of local and regional levels are expected to ensure a beneficial linkage between education and employment, which in combination with the expansion of employment opportunities as part of various agricultural and industrial development programmes is expected to ameliorate the problems of the educated unemployed.

The question of giving concrete shape to the concurrency provisions of the Constitution relating to higher education is under examination. This will also meet some of the internal problems of the higher education system.

Conclusion

From this brief sketch of trends, problems and developments in higher education in India, it will be seen that while some of them may be uniquely related to peculiar historical development, many of them are shared with countries of the region. Indian experience in diversifying institutional models, attempting to ensure regulated expansion, restructuring courses, ensuring better facilities and opportunities for weaker sections of the society and in the linkages which are to be forged between the universities and the community, industry and government, could certainly hold lessons for other countries. On the other hand, India would like to benefit from new experiences and initiatives undertaken by countries in the region. □

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Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

INDONESIA

by Boesjra Zahir

Introduction

In a real sense the history of higher education in Indonesia began in the late 1940s with the establishment of the Gajah Mada University in Yogyakarta and the University of Indonesia in Jakarta. In the early 1950s higher education in Indonesia essentially consisted of these two universities and several post-secondary training institutions established by the various ministries and the armed forces to provide trained manpower for their specific needs. The student body was about 10,000, while the teaching staff consisted largely of Dutch nationals, a small number of Indonesian professors and a larger group of young Indonesian assistants.

Because of the rapid expansion of primary and secondary education after independence, a number of new universities were established in the second half of the 1950s not only in Java, but also in Sumatra and Sulawesi. They could not cope with the ever-increasing demand and pressures for equity and decentralization resulted in a rapid increase of new universities, so that each province had at least one. In spite of the expansion of public universities, only a small proportion of high school graduates could be accommodated. Consequently, there followed a rapid increase in the number of private tertiary institutions.

There has been a change in the educational process within the Indonesian universities. When the country was newly independent the universities still tended to perpetuate or orient themselves towards the system prevailing before independence. In the early 1950s the teaching and learning methods employed were entirely Dutch, characterized by a high degree of freedom for students to programme their course of study.

The exodus of the Dutch in the middle 1950s left a vacuum which was filled partly by lecturers recruited from European countries

like Austria, Germany and Italy. During the 1950s and early 1960s an extensive overseas study programme was carried out in which hundreds of Indonesian graduates were sent to study abroad. There was also an American influence in this period brought about by the massive supply of teaching staff and equipment, with scholarships for local staff members. This assistance was mostly concentrated in Engineering, Medicine, Agriculture and Economics and lasted for about ten years until the selected institutions could be considered to have reached the point of continuous development.

Problems and issues

The higher education system in Indonesia witnessed phenomenal growth in student enrolment and the number of institutions during the first 25 years of independence. The number of students increased from 10,000 in 1950 to 250,000 in 1979. Similarly the number of public institutions rose from 2 to 41 and private institutions from none to over 200 during the same period. In spite of this impressive growth, still only about 30 per cent of high school graduates can be accommodated. It is expected that this percentage will gradually decrease in the next decade, because primary and secondary education, which have a higher priority than tertiary education, will develop at an even greater rate than at present. Other problems also arose that could be attributed to the rapid growth in higher education which was not matched by a simultaneous proportional expansion of infrastructure and other hardware, teaching staff, curriculum development, and institutional support—especially management.

The above factors together combined to produce an educational process which had a high drop-out rate and low internal efficiency. After random growth until the end of the 1960s, measures were taken to channel further development along lines which would guide higher education to a co-ordinated 'national system'.

Role of the university

Within the Indonesian context the university as an institution for higher learning has a profound role to play in the development of the nation. It is further expected that it should carry out this role through the fulfilment of its basic functions of teaching, research and public service; known as *tridharma*.

Challenges and issues. In trying to cope with their increasing responsibilities, and at the same time being painfully aware of their shortcomings, the universities are facing tremendous challenges covering a very broad front. These include:

1. catering to the ever increasing demand for higher education;
2. providing further university training for the professionals faced with this demand on their services;
3. fulfilling the requirement of improving the nation's research capabilities, especially its manpower aspect;
4. catering to the needs of higher education itself, in particular the provision of the manpower needed to alleviate the present shortages as well as the requirements for growth; and
5. fulfilling the requirements of society for public service on an ever increasing scale.

Policies, reforms and plans. Attempts to meet these challenges are faced with a lack of manpower, facilities and funds and require a concerted approach so that fundamental policies may be formulated to help design mutually supporting programmes which will bring all higher education into one national system. The basic policy guide (1975) specifies the role and function of higher education, i.e., as an agent for development, specifying the role it should play in the development of the country, within the modernization process affecting the nation. It deals with the main functions of higher education institutions specified as a trilogy consisting of teaching, research and public service, closely linked together constituting an integrated whole. This wholeness is fundamentally important and it is only through this concept that one can expect higher education through its institutions to perform its function and discharge its role. The division of tasks and orientation among the institutions within the mission-oriented system aimed at short-term as well as long-term goals in higher education are also mentioned. Effective use of resources and a more balanced development among the various institutions is also taken into account. The basic principles on which the institutional undertakings in higher education are to be performed are described. This constitutes a series of well laid concepts such as responsible academic freedom, equity within the teaching and learning process, basic concepts on education as part of lifelong education, formal and non-formal education and students' life. Other sections

of the guideline contain the management principles, either within each institution or between the institutions as well as the relationship between the state and the institutions, and short-, medium- and long-term work programmes, designed along the lines of a chosen strategy.

The concepts outlined in the basic policy document will clearly introduce changes in the structure. It is this management for change which the administration has to cope with. It is generally accepted that effective change can only be brought about by a committed management and that it should not only aim at the structure but more fundamentally affect the thinking of the academic community. Ways and means to promote this process of change in the outlined direction have been undertaken and new administrative procedures have been set up to bring new policies more in line with the programmes.

Operational plan. The operational plan is not completely comprehensive as this is thought to be undesirable. The new system of higher education will have to evolve through controlled and directed growth. This method of work, though slow, is effective in the sense that universities participate actively in its formulation and execution. The total work programme consists of a block of issues to be undertaken within a fixed time schedule. This new system of higher education is to be achieved through the organic growth of the existing one. The present effort (a) directs the growth of the existing 'system' by introducing components that will establish the fundamental features of the developing system; and (b) maintains and improves the performance of higher education within the prevailing structure.

Innovation

Content areas and teaching techniques. To evaluate and improve content areas and techniques, consortia on fields of studies were established. There are ten consortia for the fields of Education, Social Science and Humanities, Medical Sciences, Engineering, Mathematics and Natural Sciences, Law, Economics, Agricultural Sciences, Arts and Letters, Psychology and one consortium for Interdisciplinary Studies. These consortia have finished evaluating their study programmes and have announced the minimal curriculum to be implemented with the new students. The consortia also take care of 'accreditation' in their field.

Staff development. A number of post-graduate schools have been established to increase the number of qualified teachers and researchers more rapidly. Up until a few years ago graduate programmes were only available in the form of non-degree courses lasting up to one year within the country and degree courses overseas.

Admission selections. Higher education is experimenting with four types of admission selections:

Type I : ten universities have the same admission examination at the same time.

Type II : another seven universities have 50 per cent of identical questions while 50 per cent are written by the university itself.

Type III: local examination with locally written questions.

Type IV: selected students from all over the country are invited to register without having any admission test.

Their progress is being monitored and evaluated.

Management structure. The most efficient structure for universities and faculties is being studied and a semester-credit system is being implemented. There is a sequential development scheme in which a development budget is allocated according to certain criteria. It is expected that during one cycle of the scheme, which lasts ten years, the existing institutions will have reached a stage when continuous self-development is possible.

Supervision of private institutions. Administratively these private institutions are supervised by a Directorate for Private Institutions within the Directorate-General for Higher Education of the Ministry of Education and Culture. Academically each field of study is supervised by the respective consortia. Depending on the condition of the faculties, both organizational and academic, they are divided into three categories: *registered status* in which all examinations are given by the state; *recognized status* with combined state and internal examiners and finally *accredited status* with internal examiners only. Every three years they are fully re-evaluated after which they can remain in the same status or be either promoted or demoted. The best in each category, as a reward, receives a certificate and an extra financial subsidy for construction or for equipment.

Higher education in countries of the region

A division of tasks is being considered in which the government will put emphasis on 'high investment' programmes of study while leaving the 'cheaper' disciplines to the private institutions.

Student life

An increasing number of scholarships are available now, both from the government and from private sources, co-ordinated by the Directorate-General for Higher Education. However, these scholarships are still minimal and just enough to cover educational expenses, while board and lodging costs, which are more expensive, must still be borne by the students.

Guidance and counselling is not yet universally given as there are insufficient qualified personnel. In many universities a kind of guidance and counselling is available for those who seek it, given by voluntary staff members who are interested in this field.

Student participation in development programmes is rather intensive, especially since it is compulsory for students to participate actively in the 'public service function' of the university. Through this, the universities are expected to be more aware of the needs of society and to align their programmes to the needs for development, particularly in rural areas. Innovative programmes, which include society participation, have been launched, some of them forming a total educational package for the students. At least once during their course, mostly in their third year, the students have to participate actively in one of these programmes by living in a rural area for three to four months.

Indonesian students are very active politically. It is considered a 'must' by the students, because historically the students have always been the vanguard of political activism, independence and movement for political change. Depending on the movement, they are sometimes partners and sometimes opponents of the ruling power. How to accommodate this activism is a continuing problem for the university administration. □

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Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

JAPAN

by Akimasa Mitsuta

Introduction

After reorganization through the period of post-war education reform, Japanese higher education underwent steady expansion until the 1960s, from which time the rate of expansion suddenly increased. By 1976 the rate of advancement to junior college and university level was 38.6 per cent (in terms of the total population of age 18). Since then, partly as a consequence of the higher education policy to be described below, the advancement rate has shown a slight decline, but in 1980 it was still a high 37.4 per cent.

This rapid diffusion of higher education created a number of distortions. Private institutions of higher education, a prominent feature of Japanese education, grew remarkably during the expansion period and came to account for 80 per cent of all students, but the maintenance of academic standards became increasingly difficult in direct proportion to the rate of expansion. Many of the institutions of higher education, in particular private institutions, are located in urbanized areas and there is a consequent geographical imbalance of locations of institutions of higher education. The composition of fields of study in the Humanities, Social Sciences and Natural Sciences also lacks balance due to a maldistribution of departments of humanities and social sciences in private institutions, all of which, in turn, create barriers to student access to higher education.

Since financial difficulties were also an important cause of the worsening of education and research conditions at private institutions, the Government has subsidized part of its operating expenses since 1970. Also, for the purpose of a more planned consolidation, an *ad hoc* committee was set up to examine the situation. The report of this committee was submitted to the Minister of Education in 1976, and since then Japanese higher education has followed the path indicated in that report.

Initial plan for the consolidation of higher education

The committee report provided for an 11-year period, from 1976 to 1986, in which to achieve a consolidation of higher education. Also, in consideration of the trends in the 18-year-old population and the fluid factors affecting higher education during this time, the committee divided this period into an initial (1976–1980) and a follow-up (1981–1986) period, and established guidelines for planned consolidation mainly in the initial period. The main points in this initial plan were as follows.

1. *During the planned period, quantitative expansion in higher education should as a rule be restricted and efforts should be directed toward qualitative improvement.* On the assumption that the population advancing to higher education (the 18-year-old population) would remain at essentially the same level during the five-year period of the initial plan, junior college and university expansion was to be limited to that rate necessary to correct shortcomings in local accommodation facilities. This would eliminate the lack of balance in the distribution of fields of study by area, and achieve the goals for training such socially required manpower as medical doctors and teachers. In addition, it was decided that, especially in big urbanized areas, the establishment of new institutions and the increase of students should as a rule not be permitted. Furthermore, the report called for efforts to increase subsidies used to improve the educational and research conditions at private institutions.

2. *In the future, higher education should not be limited to education at such traditional institutions as universities, junior colleges, and technical colleges.* It should be made more capable to responding to the post-secondary level educational demands of the people through broader, more varied institutions and methods. These include special training schools (established in 1976 to improve the general educational level of students and develop the abilities necessary for occupational and everyday life activities), university correspondence courses and night courses, and the Broadcasting University scheduled to be inaugurated in the near future. In addition, the committee report placed emphasis on promoting diversification of the higher education structure and its flexible administration and management through such measures as permitting student transfer among different types of educational institution (quite common in other countries); adopting a more flexible course selection system to

enable students to take both day and evening classes; approving credits earned at other universities; admitting adults; and opening the doors of higher education institutions to the society by organizing extension courses.

Initial plan achievements

The initial plan ended in March 1981, at the end of the 1980 fiscal year. Consolidation proceeded largely as planned and the measures to restrict the quantitative expansion of higher education institutions, especially those taken to limit the establishment of new institutions in big urbanized areas, were effective. National universities and junior colleges made progress in fields where planned manpower development such as for medical doctors and technicians was badly needed. During this period, there was also a marked expansion of the national subsidy system to support private institution management (i.e., funds for the fiscal year 1980 totalled ¥ 260.5 billion* or 20 times the amount allocated for the fiscal year 1970) and this greatly contributed to the improvement of their educational and research conditions.

A considerable amount of progress was also made in diversifying the structure of higher education and its flexible administration and management. Steps were taken to promote an exchange among institutions of higher education. Several universities began attempts to initiate day-and-night classes as part of an effort to create flexibility in university class scheduling, and the number of university extension courses increased. In addition, in response to new social demands, the University of Tsukuba (1973), two Universities of Technology and Science (1976), and two newly organized Universities of Teacher Education (1978) were established with completely restructured organizations and innovatory purposes. Also, steady progress was made in the provision of more special training schools, so that by 1980 there were 2,033 special training schools at higher education level.

Follow-up plan

The Committee appointed by the Minister of Education continued deliberations and in December 1979, submitted a report on

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* Approximately 230 Japanese Yen (¥) = One US dollar

the follow-up plan for the six-year period from the fiscal year 1981 through the fiscal year 1986. This report basically retains the policies of the initial plan and contains measures to further promote them. It places emphasis on qualitative improvement rather than quantitative expansion with regard to junior colleges and universities. Strong restrictions are to be placed on the establishment of new institutions in big urbanized areas, and further adjustments are called for in local areas.

The report urges the promotion of further measures to achieve greater structural diversification and flexible management in higher education. Here the plan calls for such measures as (1) providing for credit exchange among universities; (2) making it possible for the research guidance for graduate school students to be partially provided by the graduate school of a suitable different university; (3) further increasing university extension courses; (4) inaugurating the Broadcasting University at an early date so as to provide higher education opportunities for all adults instead of newly graduated high school students alone; and (5) diversifying junior colleges in line with social needs.

Greater flexibility and easier access

The following measures taken in recent years regarding the Japanese university system involve no drastic reform, but deserve attention as ways and means toward the achievement of an actual, steady improvement.

1. Selection of courses of general education at university (undergraduate level) has become flexible with due consideration to students' courses in specialized study (improved and implemented in April 1971).

2. It is possible for undergraduate students to apply a certain number of credits earned at other universities (including foreign universities) to part of the credits required for graduation at the university at which they are registered (improved and implemented in April 1972).

3. In November 1973, a revision was implemented, making it possible for universities to create and maintain new organizational units in place of the traditional departments. (In the University of Tsukuba, a national university established in 1973, a new system of

clusters of colleges, research institutes and study groups has been adopted in place of the traditional department system).

4. As a means of promoting academic learning and coping with social demands for manpower, the nature and objectives of Master's and Doctor's degree programmes of graduate schools were clarified to increase flexibility in graduation time-limits and credit requirements, and to facilitate the transfer of credits among graduate schools (improved and implemented in April 1975).

5. It is possible to establish and maintain independent graduate schools without accompanying undergraduate schools (implemented in June 1976).

6. To cope with differences between the Japanese and foreign academic calendars (the Japanese academic calendar runs from April to March), it is now possible to admit and graduate students each semester or quarter during the academic year (implemented in June 1976). As a result, it is now easier for Japanese universities to admit foreign students and Japanese students returning from study abroad.

7. In order to respond to the need for lifelong education in Japan, notable progress has been made regarding university extension courses and opening university facilities to the public.

a) *University extension courses.* These courses are open to all. In the fiscal year 1979, approximately 1,200 courses were held at 201 out of 443 universities, and attended by 110,000 participants;

b) *Opening of university physical education facilities.* The increase in sports and physical activities among citizens has given an impetus to the opening of university physical education facilities to the public. As a result, in the fiscal year 1979, such facilities were opened at 252 universities and were used by 1,100,000 people.

Improvement of the university entrance examination system

The traditional practices of mainly employing newly graduated students, lifelong employment, and company-based education and training make one's last academic career and initial employment very significant. As a result, citizens tend to over-emphasize academic background and, due to the inevitable 'pecking order' among several hundreds of universities, businesses and other employers show a

strong tendency to employ the graduates of predetermined universities. These traditions and the resulting trends have increased the intensity of competition for entrance to so-called 'good' universities and become the cause of the orientation of upper secondary school and lower level education toward entrance examination preparation, thus creating social and educational problems. In order to solve these problems, measures were taken to correct the society's general over-emphasis on academic background, increase post-employment labour market fluidity, and encourage individuality among universities but it was realized that a revision of the method of university student selection was also an important matter.

In an attempt to improve the university entrance examination, reviews and reforms have been made several times in the past and a new entrance examination system for national and public universities was put into effect from the fiscal year 1979. The new selection system for applicants is composed of two steps. The 'joint first entrance test' (made throughout the country at the same date with the same items for approximately 340,000 applicants) assesses the attainment of individual applicants in general and basic learning at upper secondary school. This is then followed by the second stage examination administered by the individual universities the applicants wish to enter. The universities also obtain written essays and conduct personal interviews, the results of which are used in evaluating abilities and aptitudes as they relate to the aims, characteristics, and special fields of the universities. On the basis of these results plus a report submitted by the applicant's upper secondary school, each university selects suitable entrants.

This revision is a response to criticism of the former 'one-shot examination' system and the use of unsuitable test items deviating from the content and level of difficulty of upper secondary school education. It is also meant to contribute to the careful selection of students truly worthy of receiving university education and to the restoration of the normal function of upper secondary school education. This newly improved entrance examination system for national and public universities entered its third year in the spring of 1981, and has been favourably received.

There are an increasing number of universities admitting students mainly on the recommendations of their upper secondary schools. Also, mainly in night course departments, there are more

universities providing entrance examinations for the benefit of adults with work and social experience. It is evident that, more than at any time in the past, universities are making creative efforts to improve student selection.

It remains to be seen whether this entrance examination reform will carry over to the whole university system, including private universities, which enrol approximately 80 per cent of all students. While it is desirable for these universities to maintain their own individual characteristics and founding spirit it is hoped that they will make creative efforts to improve student selection in the same way as national and public universities.

Criteria for university entrance qualification

In line with the recent movement toward the internationalization of society, there has been a marked increase in the number of Japanese nationals going to and returning from a long period of residence abroad, as well as in the number of foreign students desiring to study in Japan. In the past, however, inherent barriers related to university entrance qualifications have made it difficult to cope with Japanese students returning from abroad and foreigners wishing to enter a Japanese university.

The general rule in Japan has been to grant a university entrance qualification to those who have graduated from a Japanese upper secondary school or completed 12 years of school education (either in Japan or abroad), but in the case of those educated in countries providing less than 12 years of education by the end of secondary education, and in the case of those attending so-called international schools, which were not officially recognized, the road to university entrance in Japan was closed because they were not granted university entrance qualification. In order to eliminate this bottleneck, measures were taken on three occasions in recent years to provide for flexibility in the granting of university entrance qualifications.

International Baccalaureate Diploma. In April 1979, measures were taken to grant university entrance qualifications to 'those having reached the age of 18 and possessing the International Baccalaureate Diploma (qualifications granted under specific conditions by the International Baccalaureate Office in Switzerland to the graduates of international schools in foreign countries)'.

University entrance qualifications for graduates of Japanese schools abroad. In May 1978, measures were taken to grant university entrance qualifications to:

> . . . those completing the course of study at educational institutions abroad (i.e., educational institutions established in foreign countries to educate Japanese citizens) designated by the Minister of Education, Science and Culture as having a curriculum equivalent to that of upper secondary schools in Japan.

Students deemed to have the same standard with the completion of 12 years of school education in a foreign country. In August 1979, measures were also taken to grant university entrance qualifications to 'those designated by the Minister of Education, Science and Culture and who have the same standards with the completion of 12 years of school education in a foreign country'. Thus, in the case of those who have completed secondary education at schools in foreign countries (especially in cases where the period of education is less than 12 years), Japanese university entrance qualifications can now be granted on the condition that such students have reached the age of 18 and have completed preparatory education for university entrance at an educational institution officially designated by the Minister of Education, Science and Culture (at present, four institutions have been so designated).

Increasing scholarships and student loans

Scholarship funds have a great significance in that they guarantee opportunities to advance to higher education. There are various types of scholarship funds available, including the Japan Scholarship Society, which was established in 1944 and operates as a state enterprise. The purpose of the Japan Scholarship Society is to provide loans to students who have excellent academic records but face economic difficulty in continuing their schooling. It therefore contributes to the guarantee of equality in educational opportunity and to the provision of a large supply of high quality manpower for society.

Financial assistance is given in the form of loans without interest for upper secondary school, university, and graduate school students. In the fiscal year 1980 such loans were granted to a total of 378,000 persons, of whom 227,000 were junior college and university students, or 10.7 per cent of the total number attending universities

and junior colleges. The funds of the Japan Scholarship Society are appropriated from Government loans and repayments by former loan-receiving students and is a unique and successful system. In the fiscal year 1980 a total of ¥ 92.5 billion was provided for loans.

Another enterprise in which the Government is involved is the Private University Scholarship and Student Aid System, which began operation in 1974 in order to reduce the financial burden of students at private junior colleges and universities. When a junior college or university provides educational loans and permits the payment of entrance fees in instalments, the Government provides funds to the educational institution in the form of long-term and low-interest loans. In the fiscal year 1980, loan funds totalled ¥ 3.5 billion.

In addition, a survey in the fiscal year 1979 revealed that an additional 200,000 students were financially assisted by a total of 2,726 organizations, including 1,190 local governments (out of a total of 3,302 local governments), 673 incorporated scholarship and educational loan organizations, and 863 incorporated schools.

The eligibility of students, the methods of qualifying and the amount of the loan differ from organization to organization, but in a large number of cases, non-repayable scholarships are also provided.

In order to improve such scholarship and student loan systems in the future, it is necessary to give careful consideration to: (1) the number of students to be served (in view of the fact that nearly 40 per cent of upper secondary school graduates now advance to institutions of higher education); (2) the amounts to be loaned; and (3) the guarantee of manpower training in line with national and social needs, including the training of researchers and educational personnel.

Future outlook

In countries such as Japan, in which higher education has undergone remarkable quantitative expansion and become a huge social institution with equally great significance in government financing and national economics, higher education has come to be deeply related to and affected by social, economic, and cultural changes. Also, under a mono-track 6-3-3-4 educational system, higher education forcefully affects and is affected by education at lower levels. As a result, the future development of higher education requires continuing careful consideration of these factors. It therefore constitutes one of the difficult policy issues in a highly advanced society. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

MALAYSIA*

Historical perspective

Higher education is a recent development in Malaysia. In earlier years higher education, in what was then known as Malaya, was largely the result of private enterprise which led to the establishment of the King Edward VII College of Medicine in Singapore in July 1905. This was followed by the establishment of Raffles College in July 1929.

In 1942, however, technical education was given significant emphasis when the Technical School in Kuala Lumpur was converted into a Technical College offering courses in Civil, Electrical, Mechanical and Telecommunication Engineering. In October 1949, the University of Malaya was established with the amalgamation of King Edward VII College of Medicine and Raffles College.

The University of Malaya, located in Singapore, developed rapidly and with the attainment of independence in 1957, a Kuala Lumpur Division of the University of Malaya was set up. In 1968, the Kuala Lumpur Division became the University of Malaya which catered for courses in Agriculture, Engineering, Medicine, Arts and Sciences.

In 1969, a second university was established in Penang. This university, originally known as the University of Penang, was later renamed the University of Science Malaysia (*Universiti Sains Malaysia*). Its aim was to supplement and complement higher education in the Sciences and Applied Sciences, Pharmaceutical Sciences, Building Sciences and Technology, Social Sciences, Humanities and Education.

In 1970, the National University (*Universiti Kebangsaan*), was established offering courses in Economics and Management, Islamic Studies, Medicine, Sciences, Social Sciences and Humanities. This was the first university established with *Bahasa Malaysia* (the National language) as the main medium of instruction.

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* Country paper presented at the Study Group Meeting on Regional Co-operation in Higher Education in Asia and Oceania, Bangkok, 19–25 February 1980.

In 1971, the University of Agriculture (*Universiti Pertanian Malaysia*) was established by the amalgamation of the College of Agriculture at Serdang and the Faculty of Agriculture of the University of Malaya.

Finally in 1972 the Technical College was raised to university status and named the National Institute of Technology (later renamed the University of Technology).

The importance of higher education contributing to the dual need of national unity and the production of relevant quality manpower, is clearly reflected in the New Economic Policy of the country (henceforward termed the NEP) launched in 1971. The Universities and University Colleges Act of 1971 (amended in 1975) provides that no higher educational institution may be established in the country unless the Constitutional Monarch (*Yang DiPertuan Agong*) is satisfied that it is expedient in the national interest to do so. Any institution of university status, when established, is a body corporate and its constitution must conform to the provisions of the model constitution which is a schedule to the Act. In effect this provides for the pattern of internal government of universities to be alike. The pattern is similar in many respects to the system in most Commonwealth universities.

The Universities and University Colleges Act provides for the Minister of Education to be responsible for the general direction of higher education and the administration of the Act. The amendment to the Act in 1975 provided for more heads of government departments or their representatives to serve as members of the Councils of all universities. Thus, the government co-ordinates the decisions of the various universities and ensures, to some extent, that all universities conform to national policies. With this, and the fact that government provides 80 per cent or more of university finance, it is difficult to ascribe any significant degree of autonomy to universities, *de jure* or *de facto*. However, despite the changing pressures on the universities exerted by government, the universities can pursue their own academic ways so long as they do not contradict the national objectives.

The new philosophy therefore departs from the ivory tower concept of yesteryear. While it may be true that innovative ideas and a critical examination of the Government's policies and performances

may contribute towards change, the NEP places the major responsibility on the Government and its machinery (universities included) to steer the direction of development towards the targets as set under the NEP. In short, the universities are expected to play a role, not merely as agents *for* change but also as agents *of* change.

Reforms and innovations in higher education since 1975

The Malaysian educational system is committed to the policy of promoting the cultural, social, economic and political development of the young nation and its multi-racial people. In line with the aspiration of the New Economic Policy launched in 1971, the Malaysian Government passed the Constitution (Amendment) Bill of 1971 which required universities to admit more Malays and natives of Borneo (henceforth termed as the Bumiputra). Basically the aim is to provide more opportunities to the indigenous group or the Bumiputras. This involves a rather deliberate selection system through the Central Admissions Unit (*Unit Pusat Universiti*) in the admission exercises, the provision of special pre-university or matriculation courses to prepare Bumiputra students for degree courses such as Medicine, Engineering Science and Applied Sciences, and additional tutorial opportunities in the early years of study so as to reduce the possibility of relatively higher failure rates among this group.

In the effort to produce more professionals and technically skilled personnel to cater for the demand from both public and private sectors, the Government placed greater emphasis on science and technically oriented studies during the 1975–1978 period. More fields of study were offered, particularly at the University of Science, which contributed to an expansion of the intake into higher institutions. At the same time better facilities were provided for the National University at Bangi in 1977; and facilities for new fields of studies in Applied Sciences such as Pharmaceutical Sciences, Biological Sciences and Chemical Sciences in the University of Science were completed. A Basic Science Centre was established in 1977 at the University of Malaya to conduct preparatory courses for Medical, Engineering and other Science and Applied Science courses. The University of Agriculture started the construction of its Bintulu Campus branch to become operational by 1983. A Fisheries Centre was opened in Trengganu at the end of 1979 to train fishery students of the University and in 1979 the University of Science was given the

task of developing a third Medical School in order to meet the shortage of professionals in the field.

As a result of the policy of the tertiary institutions to increase the intake into Science and other related subjects the total proportion of output in the Arts and Humanities was reduced from 54.5 per cent to 45.6 per cent. The ratio of tertiary level enrolment in Science and related subjects at degree and diploma levels increased in relation to the enrolment in Arts and Humanities studies from 48 : 52 in 1975 to 66 : 34 in 1978. However, even though the enrolment in science oriented fields increased, the output is still biased towards Arts and Humanities studies. Meanwhile, the overall enrolments for university education increased by 20 per cent from 15,000 students in 1975 to 18,064 students in 1978.

Besides orienting education and training to meet the skilled manpower needs of the nation and providing greater opportunity for education among those in the lower income group and regions in the country, *Bahasa Malaysia* will continue to be implemented as the main medium of instruction as an instrument to foster national integration and unity amongst the people. The use of English will be extended as an effective second language. A special academic staff training scheme has also been implemented to build up a core of locally recruited staff who are competent to teach in the national language. Hence the establishment of the Academic Staff Training Scheme (ASTS) and the Academic Staff Higher Education Scheme (ASHES) at the University of Science and some form of tutorship schemes in the other universities.

In short, the policy of higher education today is guided primarily by the following objectives of the NEP:

1. To strengthen the educational system for promoting national integration and unity through:
   a) the continued implementation, in stages, of *Bahasa Malaysia* as the main medium of instruction in all universities by 1983;
   b) the development of personality, character, and good citizenship and the promotion of moral discipline through curricula and extra-curricula activities; and
   c) narrowing the gap in educational opportunities between the rich and the poor, and among the various regions and

races in the country, through a more equitable distribution of resources and facilities.

2. To orient and expand the education and training system towards meeting national manpower needs, especially in science and technology; and
3. To improve the quality of education in order to reduce wastage and increase its effectiveness for nation building.

In consonance with these objectives, the various universities and institutions of higher learning have devised and implemented various programmes and activities. There is a major trend to relate the content of courses taught to the realities of present day needs, not only in the area of employment but also in the development of the individuals as useful and self-reliant citizens of the country. The 'gown in the town' approach is now evident not only in undergraduate and postgraduate teaching, but also in research activities.

Applied and problem-oriented research is being given greater emphasis in the effort to find local solutions to local problems. A multi-disciplinary approach is also being encouraged with a concentration of research on material resources indigenous to Malaysia and in those areas which contribute to solving the social and economic problems facing the nation.

Demands from the private sector have increased during the period and university graduates have had to be prepared and oriented to meet them. The need to accommodate an increasing number of graduates in the private sector, as opposed to the public sector (which was always the major employer of university graduates in the past) has led the universities to redesign their course offerings. Graduates are not only equipped with skills in management and the ability to apply computer sciences and other tools in commerce and industry, but are also able to play an entrepreneural role in creating employment, especially in the private sector.

Besides contributing towards teaching and the provision of community services, the universities have also undertaken to fulfil the other aspects of their social responsibility, namely research. At a time when the country is undergoing rapid social and technological change, the need to search new frontiers of knowledge and to review and reinterpret present knowledge necessitates the development of applied or problem-oriented types of research activities. The

universities are hoping to contribute to existing knowledge and the search for local solutions to local problems. In this way, the problem of 'irrelevancy' of models will be greatly eliminated.

The creation of the Centre for Policy Research in 1974 provided an additional dimension in the existing research collaboration between the universities and the Government. In an effort to increase the existing facilities in higher education, the Government saw it appropriate to establish this institution within the universities itself so as to fully exploit the available resources and expertise in the country. Since then, the Centre for Policy Research has made it possible for a number of research activities to be carried out on behalf of the Government and its statutory bodies, the local municipal governments and other organizations to properly determine their future policies and direction. The Centre also aims to develop a reserve pool of local researchers so that future government contracts for any large research studies do not go only to foreign consultants.

Current issues and problems

The growth of university facilities in Malaysia has been largely determined by the types of manpower needed for the development of the country. The change in emphasis from being just a producer of cheap raw materials to being a producer and a manufacturer has convinced Malaysia since the beginning that its future lies in the industrialization and modernization process of the traditional economic activities. The recommendations made in the Higher Education Planning Committee Report of 1967 provided the basis for educational planning in the country in this regard. However, because of the shortcomings in the target set by the Report as a basis for higher educational planning in Malaysia till 1985, a number of issues have evolved. Firstly, the Report could not indicate with certainty the actual numbers under each category of manpower requirements. Hence the recommended 4 per cent university education for the 19–22 age group and the ratio 1 : 4 : 20 of professional, sub-professional and technical, was unrealistic. Furthermore, the output ratio of 4 : 3 : 3 for Arts, Science and Technology, had little correlation with the manpower needs of the country.

The apparent lack of co-ordination between educational planning and national economic planning has resulted in discrepancies between projections of employment and educational output. In the

attempt to rectify these discrepancies, and the light of the new economic stress of the country, the Government has, since 1975, taken steps to expand enrolment in Science and other Technical subjects while simultaneously reducing the ratio for the Arts and Humanities.

As already mentioned, one of the most important bottlenecks in the implementation of the development plan is the shortage of technical and managerial personnel. This has adversely affected the development expenditure programmes of the public sector. Projected estimates as perceived during the Third Malaysia Plan Period (1976-1980) revealed that Malaysia at the rate of present growth will require about 65,500 professional and technical workers and another 12,300 administrative and managerial workers. With the existing backlog of unfilled vacancies, and those filled by expatriates and under-qualified manpower in these two categories, the task is considerable. As a result of this there is a clear case for a better study of manpower requirements and the expansion of higher educational facilities.

In a multi-racial country like Malaysia, the manpower approach in the development planning for university level education has some limitations. The question of how universities can play their role in the unification process therefore becomes the second most important factor considered in the formulation of educational policies. It is not sufficient for the Government to just provide the necessary funds for the universities and then allow them to produce the skilled manpower needs of the nation. Were this tradition to persist, the universities in their concern for standards would, for example, only accept the most outstanding candidates. In the Malaysian context, this would mean that the universities would only admit those fortunate students who had been through the best schools which are usually centralized in specific urban areas. The majority of the people are found in rural areas where the necessary educational facilities and opportunities are generally lacking. Students from such a background would be unlikely to gain admission to the universities if academic standard was the only consideration. This would also contribute towards the persistent gap between the 'haves' and the 'have-nots', which the Government is endeavouring to eliminate.

The other problem confronted in the process of growth and expansion of university level education in Malaysia today is the question of its ultimate size. There is actually no simple answer to the

number of universities and the optimum student population. What must be considered by the universities is their social responsibility to meet the demands and aspirations of the community for more educational facilities, and at the same time balance these requirements against a realistic projection of output that can be absorbed by the nation.

The new economic policy has provided a new dimension in the history of educational planning in this country. Various events and changes that have occurred during this period, have prompted a rethinking on the role and purpose of universities in Malaysia. One thing is clear—the university can no longer play the role of a third party, insensitive to political needs and aspirations. It has also to play its part in the overall aspirations of the NEP if its existence is to be justified. The university can contribute towards the formulation and implementation of the development plan in three main areas, namely, training, research and consultation.

In the field of training, local universities will have to ensure the quality of the kind of education they profess to uphold by providing courses of studies that are relevant to the needs of the nation. Universities have to be alert and sensitive to the need to reassess their curricula from time to time. Parents and students tend to look upon universities as 'degree factories', where students spend tedious but necessary periods of time working for the pieces of paper that serve as passports to comfortable jobs. Additional reading, beyond that required by lecture notes, is rare. The concept of a university, where students develop their critical facilities is lost as students often continue the old 'rote learning' habit of studying adopted in schools. As a result of the weaknesses in study techniques, local universities are now faced with the urgent need to break bad habits. Malaysian educators can learn the best methods available to improve the prevalent weaknesses in the students' studying habits and any innovations in this regard, from colleagues in universities in other countries of the region.

In the light of the changing role and purpose of Malaysian universities, they should now orientate themselves to play an effective role synonymous with the development and aspirations of the country. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

PAKISTAN

by M.D. Shami

Introduction

A new era in the development of higher education in Pakistan began with the birth of the country in August 1947. Prior to that, only one full-fledged university, the University of Punjab, existed together with a few colleges imparting higher level instruction. Successive Governments, therefore, had to provide for relatively rapid growth in the sector of higher education. Thus during the succeeding three decades the number of degree colleges rose from 26 to 261 and the number of universities from one in 1947 to 15 in 1977. The rapid pace of development of higher education in Pakistan has been in response to pressure of demand and consequently a large proportion of investment funds has been pre-empted for this purpose. During the Second, Third and Fourth Plan periods the expenditure on universities, colleges and associated programmes amounted to approximately 30 per cent, 28 per cent and 49 per cent respectively of the total development expenditure in the education and training sector.

This rapid expansion of higher education has generated problems of its own. There has been no matching expansion at the lower level and the majority of students in higher education have been studying Arts disciplines. Thus the percentages of students in the Arts stream are 60 and 27 respectively at degree and post-graduate levels.

One of the major areas of concern at degree level is the high failure rate. Among others the duality of the medium of instruction and the policy of admitting students without regard to their academic background and aptitude are the two important contributing factors. The mass failures result in considerable wastage in valuable human time and effort.

Another major concern is the deteriorating standards of attainment of college and university graduates, coupled with the inadequacy of the system to cope with the growing needs of socio-economic, scientific and technological development.

The targets of the National Education Policy (1978–1983) were duly reflected in the Fifth Plan. It made a determined effort to involve the nation in the task of educational development by placing great reliance on the mobilization of community resources and support for the successful implementation of the various programmes. The National Education Policy involved a massive effort, and increased Government spending from 1.7 per cent of GNP to 3.7 per cent.

Development programme

Degree college. Some of the major programmes to improve the quality of college education are:

a) The present 4-tier system of primary, secondary, college and university will be replaced by a 3-tier system of elementary, secondary and university education in a phased manner. After 12 years of primary and secondary education the degree colleges will include classes XIII, XIV, XV and XVI—a four-year degree course instead of the existing two-year course system.

b) The minimum strength of a degree college will be fixed, and in towns where more than one degree college offers instruction in science subjects, the teaching will be consolidated.

c) The book-banks scheme will be recast to benefit the maximum number of students.

d) Adequate educational and scientific equipment and laboratory facilities will be provided.

e) Hostel accommodation and the socio-cultural life of colleges will be improved.

f) An organized programme of counselling and guidance will be developed. Placement centres will be established to facilitate employment opportunities for students after graduation.

g) High priority will be given to the consolidation of existing colleges, particularly to the improvement of facilities for teaching science.

These objectives are to be realized through three major programmes. Under the first programme, educational equipment including books and scientific equipment is to be provided to 27 colleges for men and 13 for women that have been upgraded during the last five years. Under the second programme, 51 degree colleges for men and

21 for women are to be consolidated by providing additional physical facilities, furniture, books and equipment to remove existing deficiencies. Under the third programme, library and laboratory facilities of 57 colleges for men and 23 for women will be updated. Libraries are to get more books, laboratories will be expanded and up-to-date scientific equipment provided to improve the quality of instruction. It is hoped that with the implementation of these programmes all existing degree colleges will have the equipment to impart quality education in the revised curricula.

University. The educational progress and economic development of a country is largely determined by the quality of teaching and research in the universities. Although there has been rapid growth in university education in the past few years, the universities have been through considerable financial difficulties. To improve the situation, the Federal Government decided to meet the entire expenditure (recurrent as well as developmental) of the universities from July 1979. The funds to universities are now being routed through the University Grants Commission; the agency responsible for co-ordination and regulation of teaching and research at the universities.

Efforts are being made to: (a) improve the quality of higher education through the introduction of a semester system and professional growth of teachers; (b) promote doctoral and post-doctoral research by strengthening Centres of Excellence in science subjects and providing incentives to university teachers; (c) increase facilities for post-graduate education in less developed areas; and (d) provide post-graduate education facilities for those female students who do not wish to join mixed classes at university level.

A number of measures are to be taken to promote doctoral and post-doctoral research in universities. The existing Centres of Excellence will be provided with the necessary physical, library and laboratory facilities to fully use their capacity for doctoral programmes while other university departments will be encouraged to take up purposeful research with grants awarded by the University Grants Commission. The enrolment in M. Phil. and Ph. D. programmes is planned to increase by 84 and 65 per cent respectively, as against a 25 per cent increase at master's level.

University and degree college teachers who do not hold Ph. D. degrees shall be awarded research fellowships by the University Grants

Commission, and study leave will be granted by their institutions to enable them to pursue doctoral studies at the local universities.

A National Academy of Higher Education has been established for the pre-service and in-service training of college and university teachers. The training course aims to upgrade the teachers by demonstrating the latest developments in their field of specialization and acquainting them with modern teaching techniques. This training will have a great impact upon the quality of instruction in institutions of higher learning.

Steps will be taken to facilitate tripartite mobility of qualified staff among the universities, research organizations and the Government. To ensure a healthy interaction with the community, teachers will be required to provide extension services in the areas of their specialization. Exchanges of 'goodwill' missions of students and teachers between universities will be introduced to promote national integration. Scholarships for higher education will be provided to outstanding university teachers and students. Universities will be encouraged to generate additional funds by establishing production units and contractual and consultancy services. Provision has also been made for study and sabbatical leave.

Professional education. Professional education is always costlier than general education and its quality directly affects economic development and production. Education and training in professional institutions must be closely linked with the world-of-work. However, except in medicine and chartered accountancy, no on-the-job training is provided to professional graduates before the degree award. Another weakness of the professional education system is that its benefits do not flow directly to the community at large.

Leaving aside the special professional institutes established and run by big organizations like Pakistan International Airlines Corporation, Pakistan Steel Mills Corporation, Pakistan Railways and Pakistan Air Force, the universities and other institutes impart instruction in most major professions such as engineering and technology, education, medicine, management, business and commerce, agriculture and law.

The Government is concerned to improve the quality of engineering and agricultural education and has approved the following programme of action.

Engineering education. The existing facilities will be consolidated and improved. The addition or expansion of new disciplines like electronics, shipbuilding and aeronautical engineering will be limited. The existing qualitative deficiencies in the training facilities of engineers will be removed by providing adequate laboratory equipment, workshop machinery and books to all institutions.

Close collaboration will be established between engineering institutions and the employers by constituting advisory committees in all the institutions. These advisory committees and syndicates from the engineering universities will consist of representatives from industry and other employers of engineering graduates. To make training relevant to job requirements, employers' representatives will also be included on the Curriculum Committees and Academic Councils of the colleges and universities. The institutions will be encouraged to develop and provide consultancy services and laboratory and research facilities for the industries so that they may be able to relate their research to industrial problems and thus supplement their financial resources.

In order to provide on-the-job training, the students will be required to spend a minimum period of eight months on national projects in public or private manufacturing concerns. This training will be arranged during the summer vacation for two months each year.

Agricultural education. Agricultural education plays an important role in the economy but there is a shortage of agricultural graduates. Accordingly, steps will be taken to consolidate and improve the existing facilities along with limited expansion. The enrolment is expected to have increased from 6,400 to 9,400 by 1983.

In order to make agricultural education more relevant and productive the students of agriculture must spend a total of eight months in the villages during their summer vacations, i.e., two months every year. This will provide practical experience and the farmers will benefit from their modern knowledge. The teaching staff in agricultural colleges and universities are to undertake extension services for the benefit of the farmers. The results of relevant research are to be disseminated to the farmers through the student community while they are undertaking practical work in the villages.

Other measures being contemplated, or already in operation, to improve the quality of higher education are:

National Book Foundation. The National Book Foundation, which supplies foreign textbooks to college and university students at a reasonable cost, will be enlarged. The foundation has so far reprinted 170 titles of foreign textbooks worth Rs. 4.5 million.* The programme is to be further enlarged, to supply textbooks to colleges and universities through a network of book banks.

Scholarship programme. The Government has considerably enlarged the scope and size of scholarships over the years. Most of these are Merit Scholarships. Under the *Nishan-i-Haider* Scheme, those obtaining first and second position in Science and Humanities at intermediate level are awarded scholarships. These scholarships continue up to post-graduate level provided the recipient passes in the first division. Another scheme provides for studies abroad for two students securing highest marks in the M.A. and M.Sc. examination, of each university, each year. M. Phil. and Ph. D. students studying at various Centres of Excellence are also awarded scholarships. University and college teachers are sent abroad for doctoral programmes under the Central Overseas Training Scheme.

New institutions. The development plan provides for the establishment of the following key institutions to strengthen the infrastructure of higher education: (a) the Academy of Educational Planning and Management to train educational administrators and planners; (b) an Institute of Sports and Culture to promote indigenous games, sports and cultural activities among the students; (c) a National Institute of Educational Research to initiate, guide, and coordinate educational research on crucial national issues and problems; and (d) a National Student Centre to study and conduct research on student issues, problems and attitudes.

Awards and loans. Awards for outstanding teachers and students will be introduced to provide incentives for creative and innovative work. Interest-free loans will also be provided to talented students to pursue higher education.

National Educational Council. A National Education Council will be set up as an autonomous, independent, non-governmental consultative body composed of outstanding scholars and educationists for evaluating Government policies, programmes and achievements in the

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* Approximately 12.50 Pakistan rupees (Rs.) = One US dollar

field of education. It will also serve as a 'brains-trust' and advise the Government on likely changes in educational programmes and curricula, consistent with the changing needs and aspirations of the nation.

Role of the University Grants Commission

For the promotion and co-ordination of higher education, the determination and maintenance of standards of teaching, examination and research in Universities, and orientation of University programmes to national needs, the Government of Pakistan, through an Act of Parliament, established the University Grants Commission in 1974. The Commission has formulated programmes for the promotion and development of higher education. Projects launched by the Commission include, among others, the establishment of Centres of Excellence in selected universities so as to promote and develop M. Phil., Ph. D. and post-doctoral research programmes. The centres established so far include Analytical Chemistry, Physical Chemistry, Marine Biology, Solid State Physics, Geology, Mineralogy and Water Resources Engineering. Centres of Excellence in certain promising areas of agriculture are also being planned.

The Commission has established Area Study Centres in different universities to promote and provide facilities for research and advanced studies on contemporary societies.

To provide the opportunity for research students, scholars and teachers to undertake advanced study and research in various disciplines within the country, the Commission has floated a number of fellowships. Junior research fellowships are available to meritorious students, who enrol for M. Phil. or Ph. D. programmes in Pakistani universities in selected subjects. Senior fellowships are available for scholars to do post-doctoral research work in approved fields.

The Commission has adopted a liberal policy of sponsoring visits of university teachers to foreign countries to attend seminars, conferences, workshops and other training programmes.

Involvement in identification and solution of national problems. The Pakistani universities still tend to follow the old tradition of western universities and function within their 'ivory-towers'. Their programmes are hardly in-keeping with the changing needs of national development. Universities are a powerful vehicle of change. They must not only generate new knowledge but must also provide for its

effective dissemination. The Universities must act as a base for problem-solving, teaching and research. The Government is alive to the need for a basic change in the orientation of higher education from a mainly theoretical to mostly applied knowledge and research. The University Grants Commission has initiated in-depth studies of the structure and facilities available in the universities in the subjects of biology, chemistry, physics, mathematics and economics. Effective measures will be taken to strengthen facilities in these areas so that the universities are able to play a pivotal role in the development of Science and Technology through a systematic, sustained and institutionalized effort.

The University Grants Commission is also planning to establish Centres of Applied Research in the universities to identify and propose solutions to national problems. These centres will be co-ordinated by a Central Institute. The Centres of Applied Research and the Central Institute will develop specific research projects to find solutions to national issues and problems. Groups of university teachers and other scholars have been constituted to:

1. identify social problems and make studies on national planning and policies for the development of social services;
2. analyse and identify national developmental needs and suggest their systematic and scientific solutions;
3. promote science and technology in the country and monitor modern technologies developed in advanced countries which can and should be transferred, adopted or developed both at the national and the grass-root levels;
4. undertake techno-economic studies to determine the feasibility of research projects;
5. project scientific and technological manpower requirements over a period of time, and indicate arrangements for the education and training of this manpower; and
6. recommend the types of institutions, instruments and technological services required for socio-economic development in the country.

Innovations

Islamia University, Bhawalpur. The Islamia University was recently established. According to its charter it has a predominantly

Islamic character and plans to specialize in the teaching of oriental medical science, commonly known as 'Tibb'. This character has been expressed through its scheme of studies and course content.

The university would work on the system of a four-year institute. Each year, divided into two semesters of 18 weeks each, will be a terminal stage at the end of which the student may get either a diploma or a degree. At the end of the first year, the student leaving the university, will be eligible to get a diploma; at the end of the second year a B.Sc. degree; at the end of the third year, a higher diploma, and at the end of the fourth year an M.S. degree. Thereafter, a student may pursue studies for M. Phil. or Ph. D. degree. To begin with, the Institutes of Social Sciences, Physical Sciences and 'Tibb' are being established.

University College for Women at Karachi. The objective of this college is to impart a meaningful education to women which will be intellectual in pursuit, professional in nature and job-oriented in approach so that the women can play a creative and constructive role in national development.

The proposed University College will offer a two-year Bachelor Degree course followed by a two-year Honours Degree course. In order to provide opportunities to students who leave the college without completing their degree programme, the curricula will be organized so that each year is a terminal stage, making the student eligible for a diploma at the end of the first year, and a post-graduate diploma at the end of the third year.

The University College will comprise a number of Institutes devoted to teaching and research in Home Economics, Food Technology, Textile Technology, Electronics, Pharmacy, Architecture, Education, Health Studies, Physical Education, Business Administration and Languages and other supporting divisions. It will also establish a Post-graduate Institute to undertake interdisciplinary studies for planning, promoting and evaluating women's education.

Centres of Excellence. Centres of Excellence in the Sciences and Area Study Centres for promoting research in contemporary societies, offer facilities for research work and provide programmes leading to M. Phil and Ph. D. degrees. The Centres are being strengthened to enable them to take a lead in their respective areas of specialization and will provide adequate research facilities for students,

teachers and scholars. This will result in the growth of scientific manpower and foster a better understanding amongst the people.

Co-operation with other countries

The Government of Pakistan has adopted a liberal policy towards granting admission to foreign students in institutions of higher learning. Foreign student advisors have been appointed in the Regional Offices of the University Grants Commission to look after the problems of such students.

A large number of foreign students, mostly from neighbouring Arab and African countries and even as far south as Indonesia, come to study in the colleges and universities of Pakistan. During 1978–79, about 2,800 students from 57 countries were enrolled; most of them studying Sciences, Agriculture, Engineering, Medicine and other professional subjects.

The Pakistan Government also offers, annually, under bilateral agreements, a substantial number of scholarships to overseas students and receives a sizeable number of similar awards for its own students to study in institutions of higher education abroad. □

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Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

PHILIPPINES

by Higino A. Ables

During the Spanish times, higher education was in the hands of the religious orders. When the Americans occupied the Philippines at the turn of the century, they set up a public school system, teacher-training schools, and later on the first state university. At the same time, they allowed private entrepreneurs to operate colleges and universities for profit, selling shares and declaring dividends. Before the Second World War, there were 398 private schools and colleges in various regions of the country. By 1969–70, the number had grown to 595; and by 1980–81, there were 775 private colleges and universities as well as another 309 government-operated tertiary-level institutions.

Enrolment and aspirations

Some 85 per cent of collegiate enrolment is found in private schools, and only 15 per cent in state-supported institutions. During the first semester, 1980–81, a total of 1,140,701 students were enrolled in degree courses.[1]

Since the Second World War the most popular course has been Commerce and Business Administration. About 40 per cent of the enrolment goes to this course. The popularity is perhaps explained by the relative inexpensiveness of the course, its availability in provincial colleges and the promise of a white-collar job. The following courses ranked next: Engineering and Technology, Medical Sciences, Teacher Training, Arts and Sciences, Agriculture, Law and Foreign Service, Food and Nutrition, Music and Fine Arts, Chemistry, and Nautical Science. The allied medical professions appear popular because of the possibility of placement abroad. In terms of exported manpower, doctors, nurses and medical technologists perhaps numbered the most until the more recent demand for skilled labour in the Middle East.

1. Philippines. Ministry of Education and Culture. Planning Service. *Statistical Bulletin 1981.* Manila. (in press)

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Goals

Colleges and universities in the Philippines assume much the same sort of responsibilities as many of their counterparts in other developing countries. These institutions are called upon to help propel development efforts as the nation struggles to modernize itself. Higher education is supposed to serve as an agent of change and as a source of change agents, to help define the future and provide guidelines for future action, to define, study and provide answers to present and future concerns; it is called upon to do all these and at the same time to maintain itself as a bastion of intellectual inquiry, scholarship and academic freedom. More realistically, the university is expected to perform a myriad of developmental tasks and at the same time to make itself financially and organizationally viable. This paper attempts to show how the Philippine higher education system copes with certain pressures and demands of national development.

Tertiary education, according to the National Economic and Development Authority Plan for 1978–1983, would be geared towards the provision of better quality education and the development of high-level manpower that would meet the requirements of regional and national development. Easier access to tertiary education would be provided to the qualified and deserving youth. The keyword seems to be 'quality'. It is interesting to note the distinction between this goal statement and that for the succeeding five years.

The goals of tertiary education as stated in the Five-Year Philippine Development Plan, 1983–87 follows: 'Tertiary education will continue to be rationalized and integrated to meet the need for further democratized access to the system while maintaining acceptable standards of quality'. The twin objectives of access and quality are to be pursued by providing financial assistance and by establishing a national accreditation system, and by adopting policies of progressive deregulation, and an incentive system. A science education plan will be formulated to more systematically provide for training of manpower in the sciences. According to the Plan, the numbers of private and state colleges and universities will be rationalized to ensure the attainment of quality standards. There seems to be a shift in emphasis, as the keywords in the latter statement are 'rationalized' and 'integrated', and later, 'access' and 'quality'. A bill is expected to be passed by the National Assembly providing for the integration of the educational system and for greater co-ordinative powers of the Ministry of Education and Culture.

Higher education in countries of the region

It may be relevant to note at this point that the National Economic and Development Authority (NEDA) Plan for 1978–1983 set an enrolment target of 994,000 for student year 1980–81, but during this particular year, the enrolment in degree courses was already 1,140,701; a figure that is even higher than the forecast for 1982–83. Since it is obvious that there are more enrolees than planned, perhaps what is meant by democratized access to higher education is to enable the bright and talented and deserving, yet economically disadvantaged youth to enter college. For is it not the aim of any truly democratic country to let every individual develop his full potential and not be encumbered by economic status?

Quality

Recognizing the rampant commercialization of higher education, the Ministry of Education and Culture started to apply some controls in the 1970s. A National College Entrance Examination (NCEE) was instituted to determine who should go on to college and who should enrol in technical and vocational courses. From a cut-off of 25th percentile, the NCEE cut-off now is 40th percentile. This means that only the upper 60 per cent of the examinees, who normally are fresh high school graduates, can enrol in four-year degree courses.

How does the NCEE affect higher education as it tries to fulfil the mandate? Data from the National Educational Testing Center showed that family background (especially parents' occupation and education),[2] educational background (such as size of graduating class), career choice,[3] and other factors were significantly related to performance in the NCEE. The National Capital Region of Metro Manila had the highest mean score in the various sub-tests and the highest General Scholastic Average (GSA) in the 1981 NCEE among all the regions.[4]

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2. National Educational Testing Center, Department of Education and Culture, Research and Guidance Division, Manila. "Relationship between performance in the 1975 NCEE and some selected variables," *R and G Study Report* 1(16), 1976.

3. _____ . _____ . _____ . _____ . "Examinees' performance in the 1975 NCEE and their college plans," *R and G Study Report* 1(18), 1977.

4. _____ . _____ . _____ . _____ . *Tables of data on the 1981 NCEE.*

Doubtless, the NCEE has prevented the very low achievers from enrolling in degree courses. If the students are of high calibre, then the colleges will not be wasting time trying to remedy the deficiencies of high school education. The NCEE could also function as a standard that would pressure high schools to improve the quality of their education.

The fact that those who do not win a place in college are forced to enrol in technical or vocational courses is rationalized by Zwaenepoel and Mendoza thus:

> What is to be realized is that the goals of equality and quality could actually be unified into one and the same goal without creating all the contradictions usually encountered. This could be achieved by encouraging the development of a technologically flexible and non-standardized educational system which gives more attention to individual characteristics and needs in the formulation of appropriate educational services. . .[5]

A research report on equalization of educational opportunities for private higher education recommended certain measures to be taken within the system of higher education.[6] With reference to admission requirements, a regional cut-off in the NCEE was recommended 'to correct the Manila bias'. Another measure is a NCEE correction factor based on socio-economic variables. Still another suggestion was to adopt a quota system of enrolment in the different regions considering the distribution of the population by income groups. A system of socialized fees according to income, and programmes for scholarships and loans have also been proposed. A scholarship and loan programme is already operational nation-wide.

The more visible steps taken to promote equity in educational opportunities have been in the University of the Philippines (UP).[7]

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5. Zwaenepoel, Paul, and Edmund Mendoza. "Efficiency and productivity of the higher education system," *FAPE Review* 10(1 and 4):43, July/October 1979.

6. Private Higher Education Project. *Research report on equalization of educational opportunities for private higher education.* Manila, The Association of Catholic Universities of the Philippines, February 1978. p. 85–95.

7. Philippines. National Economic and Development Authority. "NEDA Development Plan 1978–1983," *FAPE Review* 8(2):39–63, October 1977.

Tuition fees were restructured a few years ago whereby higher status courses required higher tuition payments. An experiment in democratization was launched but after five years was abandoned. In this scheme, learning assistance, psycho-social assistance and financial assistance were combined to determine their effects on the performance of students who were admitted despite their falling below the cut-off grade for admission, and who came from families with income less than ₱ 8,000* per year. There is a similar ongoing programme in an autonomous campus of UP at Los Baños. Also at UP is a grants-in-aid programme that bases support on income tax returns and assets of each student's family. A graduated scheme of financial assistance is determined on the basis of need. Awards are made by semester as scholastic standing and changes in family status are considered. Also tenable in the UP system are various scholarships and financial aid, usually requiring above-average scholastic standing.

The state-supported colleges and universities which are attended by 15 per cent of the tertiary level student population charge relatively low tuition fees. But these schools tend to limit enrolment, and except for a few, offer only a limited set of courses, the most common of which is Agriculture. But government provides a large subsidy to public institutions of higher learning and the students pay only a fraction of the cost of education. In stark contrast, private colleges subsist almost entirely on tuition fees, and therefore they have to charge high, but nonethless more realistic fees.

On the whole, the equity goal is indeed the more difficult objective to accomplish compared with the quality objective. The national board examinations, in spite of their imperfections; the accreditation schemes, and foreign-assisted projects have comprised the major efforts of government to improve quality. Externally-funded higher education projects have focused primarily on Agriculture, Forestry, Fisheries and Engineering; fields that bear directly on national development targets. The rationale is that improved training and research capabilities of these institutions would spur development efforts.

Prospects

The traditional functions of a university, which are teaching, research and public service, define its output basically as trained

* Approximately Philippine pesos ₱ 8.60 = One US dollar

manpower and new knowledge that would then be put to the service of the nation.

In a context paper on the future of higher education in the Philippines, Franco[8] proposed three new purposes of higher education as particularly relevant to the Filipino situation. These are:

1. Development orientation; that is, the advancement of society through instruction, training, research and services;
2. Future-orientation aimed at helping the individual and the collective society to cope with change and the new rapid developments taking place every week; and
3. Societal scanning; that is, the intellectual radar processing of society, warning and giving off signals at critical points of a society's development whenever sectors of that society conspire against the human condition.

At a glance, it would seem that imposing additional demands on colleges and universities that can barely keep themselves above water, much less grow, may be unfair but if they did assume these added responsibilities they would probably still survive and indeed thrive.

It appears that the biggest problem to confront the higher education system in the coming years will be the unemployment and underemployment of college graduates. Whether it be a people's obsession for a college diploma, or the economy's inability to respond to or absorb available manpower—whatever the antecedents have been, the more intelligent reaction must be to look to the future and determine possible solutions. Heretofore, the colleges and universities have mass-produced trained people whose employment was uncertain. Perhaps it is time for the institutions to change their market strategy and collectively cause students to be placed in academic programmes with a high probability of employment. For as long as universities assume the attitude that 'whatever we produce, you should employ', the situation may reach proportions difficult to remedy. A greater interaction between the colleges and universities on one hand and the employment sector, including the government, on the other, may be one answer. □

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8. Franco, Ernesto A. "Future patterns of higher education in the Philippines," *FAPE Review* 8(2):64–79, October 1977.

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

REPUBLIC OF KOREA

by Kim Chin Man

Ancient legacies

Nearly a millennium before the oldest colleges began to take shape at Oxford and Cambridge, old Korea had a government institution of higher learning operating in its capital city. Each succeeding dynasty had its *taihak*, or a school of great learning.

Korean institutions of higher learning since the Koryo period (A.D. 918-1392) have been closely tied up with the civil service examination. The ancient system has survived two dynasties, the Japanese occupation (1910-1945), a United States Military Government, and several republican constitutions. There has always been a tremendous motivation for higher learning—for 'going up to the university'—because that has always been an elitist privilege for the chosen few that could afford it socially and intellectually. Korea has been a highly literate country; scholars have always been respected.

Some of these ancient legacies make for building and expanding the country's higher education to meet changing situations, but others can work negatively and pose difficulties in the way of effective reforms.

Change of emphasis

During their occupation, the Japanese introduced Korea to a modern, Western educational system closely modelled on their own. Chinese classics was summarily dropped along with the national network of village schools, and a modern curriculum of arts and science introduced in its place.

Deriving from European traditions, their idea of higher education was an elitist one, and they were not keen on providing Koreans with opportunities to receive university training. In 1945, when the occupation came to an end, there was only one university in Korea, the Imperial University of Seoul with about 2,000 students. More

than half of these were Japanese nationals. The technical colleges numbered 18 in all with about 5,000 students altogether.[1]

University expansion

The basic pattern of contemporary higher education in Korea started during the three years of the United States Military Government. Then, in 1948, came the first Republic of Korea Government.

In August 1946, the US Military Government created the Seoul National University by amalgamating the former Imperial University and a number of government technical colleges in Seoul and Suwon. The new university was organized on the American model having nine, four-year constituent colleges and a graduate school, a two-semester academic year and credit points, division of the curriculum into general education and major studies, a graded professional system, and so on. At the same time, three major private colleges in Seoul were 'elevated' to university status along the same lines of reorganization. These became the Korea, Yonsei, and Ehwa (women's) universities. Twenty-two other colleges were authorized as independent degree-awarding colleges. By 1950, when the Korean War broke out, the number of universities and independent colleges had increased from 19 to 55 and the students to 11,000.[2]

In 1955, when the country began to recover from the ravage of the war, 74 universities and colleges with about 85,000 students were struggling to meet the rising demand for higher education. The next 15 years saw the figures increase to 168 institutions and over 200,000 students. By 1970, each province had acquired a national university, which was further supplemented by a host of private foundations. To meet the enormous demand created by the trend of rapid and vigorous industrialization during the 1970s, a large number of two-year vocational or technical colleges had been founded both by the government and private foundations.

In 1980, more than 400,000 students were studying full-time at 85 universities and university colleges, and about 150,000 more

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1. *Yearbook of Korean education.* Seoul, The Korean Federation of Education Association, 1965. p. 674.

2. Kim, C.C. *A study of Korean higher education.* Seoul, Baeyongsa, 1979. p. 799.

students were being trained at 128 two-year vocational colleges.[3] The number of teachers failed to show a corresponding increase. Until about 1970, the student-faculty ratio stayed, on the average, at 20:1, which by 1980 had deteriorated to 30 : 1, and in some dire instances, 40-plus to one. Over half a million graduates of secondary schools (56 per cent) took the 1981 academic year state university-entrance examination for about 250,000 places, which means that the total enrolment in higher education at the moment may be in excess of 700,000. Consequently, the student-faculty ratio is deteriorating.

Private institutions

The history of private foundations in Korea is a long and glorious one. Privately founded universities and independent colleges far outnumber national universities. The financial situations that face the private foundations have reached a point where the government may have to devise some way or other of providing, out of the national treasury, a substantial portion of their operating costs to private institutions up and down the country.

Innovations

Under these pressing circumstances and with a long-term view of higher education in Korea, several measures and innovations have been introduced since the end of the 1960s. The state university-entrance examination is one and the Pilot Institute project is another. Post-graduate studies have come to be recognized as at once important and urgent, not the least because graduate schools produce university teachers.

State university entrance examination. Towards the end of the 1960s, it was evident that short of instituting a nation-wide objective qualifying examination, the standard of higher education could not be maintained. The balance between academic excellence and provision of equal opportunities was fast being broken in favour of the latter, but nobody wanted that to seriously compromise the traditional ideal of academic excellence which universities were expected to uphold. In practical terms, however, far more students wanted to

3. Republic of Korea, Ministry of Education. *Statistical yearbook of education.* Seoul, 1980. p. 436–441.

go on to universities and university colleges than there were places for them; in 1968, the year in which the system came into force, the ratio of students to places in university was nearly 4:1. In the past, most institutions gave their own tests to applicants, but state-test scores and secondary school records are now the sole criteria by which the receiving institutions will admit students. The way in which this examination is prepared, given and processed, leaves much to be desired, though nobody has seriously questioned the fundamental need and validity of such a test, nor is there any viable alternative.

Pilot institute project. The University Reform Project was initiated in 1973 as a comprehensive measure for the reformation of higher education. The need for such a reform had been there for a long time. The country demanded the kinds of highly trained manpower that the existing institutions could not provide. Physical facilities had to be greatly augmented and their structures and organizations updated. Above all, ancient legacies had to be re-examined in the light of developments at home and abroad in the field of higher education.[4]

Six areas were envisaged for reform:

a) Credits required for graduation would be reduced from 160 to 140, leaving students more time for a wide choice of elective courses.

b) There would be a transition from the 'department' to a 'broad-field' set-up, making it possible for students to choose major subjects to take in their second or third year.

c) Students were to be encouraged to take 'minor' subjects.

d) They were also to be encouraged to undertake a 'double major'.

e) There would be an early graduation for better-performing students.

f) To make early graduation possible, summer and winter schools would be instituted.

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4. Republic of Korea, Ministry of Education. *Report on five-year operation of pilot institutes in Korea.* Seoul, 1978. p. 19–22.

The project started with ten leading universities, and today every university and four-year independent college in the country is a participating institution. The reform project has had its ups and downs, but on the whole it has been effective in bringing about meaningful reforms in a number of areas. Teaching has improved. University faculties have been augmented. The physical facilities are invariably better than they were a decade ago.

Expansion of graduate schools

As the reform project got under way, the government, the industries, the educationists, and the parents began to ask what sort of trained manpower the country was going to need in the decades to come. A consensus slowly evolved, within the universities as much as without, that the four-year university course should be a more generalized kind of intellectual ground-work leading to employment or for advanced studies at graduate schools. The number of students coming into graduate schools began to multiply. A Ph.D. degree is already considered a prerequisite for a place at a university faculty. There are unmistakable trends and developments evolving in many sectors of the society which are bound to call for greater emphasis on and further expansion of graduate schools throughout the country. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

SINGAPORE

by Ho Wing Meng, Leong Tuck Wah,
Philip Motha and Russell A. Smith

Origin of higher education

The beginning of higher education in Singapore dates back to the end of the last century when attempts were made to establish a course for assistant surgeons. This led, eventually, to the foundation in 1905 of the Straits Settlements and Federated Malay States Government Medical School which in 1912 was renamed the King Edward VII Medical School. This was followed by the establishment of Raffles College in 1929.

In 1947 a Commission recommended the establishment of a university through the amalgamation of the King Edward VII College of Medicine and Raffles College to serve the Federation of Malaya and Singapore. The new University of Malaya was founded in 1949 which, following a period of rapid expansion, divided itself into two largely autonomous divisions. Thus the University of Malaya in Kuala Lumpur and the University of Malaya in Singapore came into being. In 1962, the University of Malaya in Singapore became known as the University of Singapore and the division in Kuala Lumpur retained its original name of University of Malaya.

Just prior to the foundation of the University of Singapore the Nanyang University was established in Singapore in 1956. This university catered for students who sought a Chinese (Mandarin) medium of instruction while the University of Singapore conducted its classes in English.

In the period leading up to 1980, although the focus of higher education in Singapore was found in its two universities, they were not the only institutions of higher education. The Singapore Polytechnic was established in 1954 to meet the national need for technical manpower. Technical training was also provided, along with domestic science and language instruction, at the Ngee Ann College. Established in 1963, the college was converted to the Ngee Ann Technical College in 1967.

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Teacher training was provided by the Singapore Teachers' Training College. Arrangements were made whereby students of the college could gain the University of Singapore post-graduate Diploma in Education. Later this was extended to allow students of the college to enrol for the university's higher degrees in education. In 1973 the Singapore Institute of Education succeeded the college in the training of teachers.

While higher education was collectively provided by these institutions, the roles of individual institutions varied. The Singapore Polytechnic and the Ngee Ann Technical College were founded and developed to provide technical and vocational training to meet practical and economic aims. Intellectual, professional and research studies were provided by the two universities with the Institute of Education providing specialized academic training.

Response to rapid change

Singapore had undergone considerable change in the short time since its two universities had been established. Significant progress had been made towards the country's goal of modernization and industrialization. With rapid change, educational goals had to be modified and training programmes revised. The prime objective was, and is, the improvement of the national economy. In terms of manpower needs, the priorities were identified as Engineering, Management Studies (Economics, Accountancy, Business Administration), Medicine and Law. A comparison of needs with the existing higher education programmes suggested a restructure and the formulation of one national university. Finally, the National University of Singapore came into being in August 1980.

Higher education in the 1980s

The National University of Singapore is located mainly at the Kent Ridge campus. The eight faculties are Arts and Social Sciences, Law, Science, Medicine, Dentistry, Engineering, Architecture and Building, Accountancy and Business Administration. There are also the three schools of Post-graduate Medical Studies, Post-graduate Dental Studies and Management. The English Language Proficiency Unit provides instruction to improve the standard of English of enrolled students. Short courses to serve, in the main, the non-university community are offered through the Department of Extramural

Studies. Arrangements between the former University of Singapore and the Institution of Education continue. Students enrolled with the University undertake courses of study for first and higher degrees. Most degrees require the completion of set courses of study to qualify for the award of degrees though some degrees, notably the Ph.D., may only be obtained following a period of research and after submitting an acceptable thesis. Students pursue their studies either full or part time.

In 1980, the National University of Singapore admitted 1,767 male students and 1,594 female students. Overall enrolments were 9,078; an increase of 29.8 per cent over the total enrolments of university students (Nanyang University and University of Singapore) for 1970.

The four institutions of higher education enrolled 14,029 male and 8,482 female students in 1980. This represented an overall increase of 64.5 per cent from 1970. The Singapore Polytechnic increased its enrolment by 102 per cent to 8,274 and the Ngee Ann Technical College, because of its rapid expansion reached an enrolment of 2,831, an increase of 373 per cent. At the Institute of Education the total 1980 enrolment of 2,328 students was only 14 per cent higher than 1970. By 1980, there were 1,947 teachers giving instruction in institutions of higher education. Of these, 1,140 were university teachers.

Demand for engineering manpower

The study of Singapore's manpower requirements at the time the structure of university education was being changed, led to the total revision of the intent and method of training engineers. The Singapore Ministry of Trade and Industry projected that, on average, 700 new engineers would be needed annually during the 1980s to meet manpower needs of industry. This required a doubling of university intake. At the same time it was recommended by the Council for Professional and Technical Education (of Singapore) that research and development engineers, and practice-oriented engineers were required in the ratio of 1 : 4.

To help realize these objectives a new institute of higher education was created. The Nanyang Technological Institute was established in 1981 at the Jurong Campus (formerly the campus of Nanyang University). This Institute, designed to train the practice-orientated

graduates accepted its first intake of students in 1982. It will remain part of the National University of Singapore and will be responsible through an Academic Committee to the University. In all other matters the Institute will be autonomous. There is a common first year for students of both institutions with the bulk of students going on to study practice-orientated engineering. The remainder will complete their studies at the University with an academic bias. This will lead to a reduction of student numbers in the latter years of the University programme and consequently an improvement in the staff to student ratio to the level that small group tutorial methods of teaching may be employed.

A School of Applied Sciences and a School for Business Administration, among other facilities, are to be added in 1986–1988. It is envisaged that the Nanyang Technological Institute will, by 1992, grow into the Technological University of Nanyang.

University education has undergone significant re-organization in response to the rapid changes of modern Singapore as well as to meet future challenges and goals. Training priorities have been stated. To meet these priorities and other needs the University is to expand and increase its teaching facilities to produce more and better graduates. It is anticipated that enrolments will total 13,500 by 1985 and 15,000 by 1990. Additional teaching staff are to be recruited and it is expected that staff-student ratios will improve considerably (1 : 4 for Medicine, 1 : 6 for Dentistry and 1 : 10 for other disciplines). An improvement in the quality of graduates will require more facilities and improved teaching. Central facilities such as the library and the computer centre have been substantially upgraded. The library has been re-organized at the Kent Ridge Campus and had its collection of publications considerably extended. The University has established an Institute of System Science as part of the National computerization effort as well as upgrading the computer hardware.

Improved salaries and conditions for teachers have been implemented and further benefits are envisaged. Good teachers, both foreign and local, will be encouraged to stay with the University. More funds for research, conferences and so forth have been made available. The day to day life of academics on campus has been enhanced through improving the staff to student ratio thus leading to more rewarding and satisfying teaching. Physical facilities on campus have been expanded to cater for sporting, social and recreational activities.

Consultancy work, outside the University, will be encouraged, especially with other government bodies.

The National University of Singapore has a leading role to play in the development of Singapore and to an increasing extent, in the training of students from other countries of the Association of Southeast Asian Nations (ASEAN). These students represent 14 per cent of total current enrolments.

Higher education and the future

Many forces have shaped the growth of higher education in Singapore. The country is small, an island Republic, with a population drawn from a diverse range of cultural backgrounds. The early history of Singapore is dominated by colonial and migrant influence and yet, the Nation has prospered. Higher education has paralleled Singapore's growth, reflecting both good and bad periods. More recently, higher education in Singapore has undergone significant reorganization and expansion to meet current needs and future goals. Educational policies for now and the next two decades include:

1. More intensive training of manpower in the skills and expertise relevant to Singapore's economic and technological development;
2. Variety and excellence in other fields of endeavour so as to maintain economic development through the provision of goods and services which are not so vulnerable to economic fluctuations;
3. Providing the kind of services (in learning and recreation for example) which will enhance the quality of life of the Singapore community with its increasing affluence and greater leisure time; and
4. Developing the National University of Singapore into a centre of learning and excellence.

Such policies will not be easily implemented. Greater educational and research facilities will be needed for all institutions of higher education. Better libraries, laboratories and better and more workshops and machine rooms with sophisticated equipment are needed. To enhance the physical improvements a greater number of highly qualified teachers will be required. All of this will mean massive funding of educational programmes by the government.

Higher education in countries of the region

It should not be thought that change in higher education comes only as a delayed reaction to any change in Singapore's economy and community. Far from it, careful forward planning to meet the Nation's economic goals is the prime consideration. With increasing prosperity, Singaporeans now expect a better life and the planning of higher education allows for this. Attention is also given to interaction with other countries and their institutions of higher education, both regional and international. Through a close rapport with the government and the society it serves, as well through co-operation with other countries, higher education in Singapore progresses. □

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Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

SOCIALIST REPUBLIC OF VIET NAM

by Vu Van Sang and Nguyen Bich Chau

Background

During 1865-1945, the Socialist Republic of Viet Nam was one of the French colonial countries at which time there was only one university for the whole of Indochina with 1,085 students of whom 200 were of French nationality.

After independence in 1945, the two greatest educational problems were that 90 per cent of the population were illiterate and there were no highly qualified scientists available to build up the country. In 1946, the government made some important decisions in an attempt to settle the problems, one of which was the use of Vietnamese as the medium of instruction in the primary, secondary and higher educational institutions. These decisions were followed by the establishment of five colleges and eight vocational schools, with 500 college students and 3,000 vocational students, to be trained as specialists for certain high priority positions. Between 1951 and 1954, 700 students were sent to study in the colleges and universities of the socialist countries. This comprised the first educational reform.

The five years, 1956 to 1960 saw nine full-scale training universities and colleges set up. They were Hanoi University, a polytechnic university, an agriculture college, two teacher training colleges, a medico-pharmaceutical university, an economy-planning college, an art college, and an irrigation college. Sixty-five vocational schools were also established. By 1960, college degree candidates numbered 3,875 (compared with 475 in 1954) and there were 18,135 middle school degree students (compared with 3,000 in 1954). This was the second educational reform, the key aims of which were to establish a relatively full-scale system of colleges and universities and link them with society and production.

The numbers of institutions and students increased until by 1965 there were 16 colleges and universities with 2,750 teachers and

29,300 students; and 112 vocational schools with 3,000 teachers and 42,600 students.

At the time of the reunification of North and South Viet Nam in April 1975, there were, in North Viet Nam, 41 colleges and universities and higher schools* with 8,600 teachers, 55,700 students and 186 vocational schools with 6,600 teachers and 69,000 students. Of the 8,600 college teachers, 8.9 per cent were first level Ph. D. graduates. Most of the college and vocational school students were from the families of workers, peasants, the intellectuals and other categories of people, indicating the wide availability of education to all. Women made up 40 per cent of college students and 50.3 per cent of vocational school students. Out of the 8,600 college teachers, 1,610 were women. Thirteen thousand students graduated from colleges and universities in 1975 and 27,000 from vocational schools. About 50 per cent were sent to work in the production institutions.

In the same year there were, in South Viet Nam, seven colleges, two technical education centres and about ten higher schools with a total of 1,500 teachers. Two years after reunification, there were 16 colleges and universities, 13 higher schools and 86 vocational schools.

At the present time there are four general universities in Hanoi, Ho Chi Minh City, Hue and Da Lat; three polytechnic universities in Hanoi, Ho Chi Minh City and Da Nang; six teacher training colleges; six agriculture colleges (forestry and fishery); five construction and architecture colleges; some tens of higher schools including geology, irrigation, finance, commerce, art and music; and 31 short-courses schools (among them about 20 middle-school teacher training establishments). In the academic year 1980–1981, the total number of students was 150,000, and the number of college teachers was 16,000. There were 300 vocational schools with 148,000 students and 12,160 teachers.

The main college and university centres are in Hanoi (25), Ho Chi Minh City (14), Thai Nguyen (6) and Hue (5).

One of the outstanding achievements of higher education in Viet Nam is that it has produced an 'army' of technical cadres and specialists, which is a precious means of rebuilding Viet Nam after two wars. In 1978, the number of cadres and specialists trained by

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* Higher schools provide from four to six years education after students have completed the tenth form of general education.

the Vietnamese colleges and universities was 230,000. Among them 29.5 per cent work in education, 8.9 per cent medicine, 16.7 per cent economy management, 7.2 per cent agriculture, 6.4 per cent civil constructions, 6.8 per cent engineering manufacture, 13.3 per cent other industries, and 4.9 per cent natural science.

There is now an established system of colleges, universities, high schools and vocational schools which act as a base for training and fostering cadres. The aims and curricula of these institutions link the cadres with the needs of the country. The achievements of higher education have been realized by following a set of rules worked out by the state.

1. The aims of training and fostering cadres must be to serve the national development goals.
2. The training must stick closely to the national planning programme for national economy and culture.
3. In the colleges, theory must go together with practice, education must link with production and colleges must relate to scientific research.
4. In choosing students for colleges, priority must be given to those who have worked well to improve national production and who have fought for national defence, as well as to children of families which have made a contribution to the country, children of the minority peoples and to apt youngsters.

Higher education in Viet Nam today

The training in the colleges and universities. For a college degree, the duration of the course depends on the requirements of the different subjects. To be accepted into any of the colleges (or universities) the candidates must have passed the secondary education formal examination (to get a B.A. degree) and pass a selection test, to determine readiness for the instructional programme conducted throughout the country at one time.

There are three forms of study for post-graduate training followed by universities and institutes since 1976.

1. *Doctorate first level (Ph. D. 1).* This is a three to four year programme for college degree graduates who pass a selection

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test. The work ends with a dissertation concerning one of the scientific problems in Viet Nam.

2. *Upgrading courses.* This important programme, for those who have the higher education degree, aims to acquaint cadres with new information and to improve their basic scientific and technical knowledge. For ten years now thousands of foreign scientists have been invited to give lectures as part of these courses together with Vietnamese professors. The duration of these courses varies from several months to one year.
3. *Doctorate second level (Ph. D. 2).* This is for those with the Ph. D. 1. The work ends with a dissertation.

College or university degrees

Duration (academic years)	College (or university)	Degree
6	Medical	Medical doctor
5	Polytechnic, electrical technology, mechanical technology, mining technology, transport and communication, architecture, chemical technology	Engineer
4	General, social science, economic science, pedagogic, foreign languages, agriculture, physical, art	College degree
From 3 to 3.5	Teacher training (elementary and secondary education)	College degree
From 3 to 3.5	Practical engineer	Engineer

Content and teaching curriculum of the colleges and universities. The teaching content is standardized and must be basic, modern and suitable for Viet Nam. The time allocation allows 25 per cent for basic scientific subjects, 25 per cent for specialized basic science, 20 per cent for specialized technology, and 30 per cent for practice. The general rule is to ensure the unity of theory and practice, the link between colleges and society and the combination of teaching, learning and experiments and research. Vietnamese is completely used as the medium of instruction with 10 per cent of the teaching documents being translations from other works.

College teaching staff. There are 12,000 college teachers of whom 15 per cent are professors and associate professors, 35 per cent are readers, and 40 per cent are assistants. Professors and researchers from different institutes are also invited to give lectures in colleges.

College teachers are selected from elite scientific workers. Their knowledge is improved by practice in universities and institutes at home and abroad. They are also sent to work for Ph. D. 1 and Ph. D. 2. Scientific research takes up 25 per cent to 50 per cent of their working hours.

Scientific research in colleges and universities. The first task of a college is to produce cadres that can serve in the process of construction. The second task, which is no less important, is to carry out research work. The state allots university research programmes the finance and equipment necessary to carry out their studies. Universities also co-operate with industries in their research work. In recent years the universities have tried to bring students into scientific research. Experience has shown that research work helps improve the quality of education as far as students' specialities and their methods of working are concerned but the lack of suitable equipment has prevented this.

Higher education reform. Higher education reform is one part of the state's educational reform programme. This is the third reform since 1945. The goal is to increase the links between higher education and production and scientific research in all fields. This higher education reform raises the problems of organization of post-graduate training which would be linked closely with production and the improvement of science. The programme, which is only for college graduates and leaders of different levels is further limited to those specialists who are highly qualified and have practical skills. There are a number of issues involved in ensuring the success of the programme. They are: (a) improving the system of part-time education; (b) determining the list of specialities; (c) perfecting the system of colleges, universities and high school—their distribution and placement throughout the country; (d) organizing a scientific research institution right in the university; and (e) improving the way to choose college students and select graduates for employment.

International co-operation. In the field of higher education, Viet Nam has been furthering its co-operation with other countries.

The government wishes to co-operate with Asian and Pacific countries because such co-operation on the one hand is in the interest of higher education and on the other brings neighbours closer to a mutual understanding. It is necessary for the peace and prosperity of these countries.

For the time being, many researchers and college teachers are attending post-graduate courses, conferences and scientific seminars in Europe, Asia, Australia and in some African and American countries.

More than 20 Vietnamese universities have signed contracts of co-operation with universities the world over. Viet Nam has actively taken part in the conferences on higher education and conferences discussing educational development and problems organized by Unesco. Today, more than 20 countries have sent their students to Viet Nam for study. There is a Vietnamese Department in the Hanoi University to teach Vietnamese to foreign students.

One important way to encourage Asian countries to co-operate in the field of higher education is through an exchange of information and inter-country study visits followed by the preparation of contracts for co-operation programmes. By experience, Viet Nam sees that this is the fastest and best way. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

SRI LANKA

by F.S.C.P. Kalpage

Current major issues

Higher education in modern Sri Lanka is over a century old but the elitist university structure inherited from the colonial administration has undergone both conceptual and structural changes in recent decades. At the same time, many of the major current issues and problems stem from the travails of an economically developing society bedevilled by imbalances between education and the economy.

The introduction of free primary, secondary and tertiary (including university) education in 1945, the adoption of the mother tongue as the medium of instruction in the primary school in the same year and in the secondary school in the 1950s, and the investment of 4.5 per cent of the Gross National Product (GNP) on education in the 1960s led to a rapid expansion of educational opportunity. In a system where educational achievement is perceived as an important agent of socio-economic mobility, the educational aspirations of students and parents were inevitably directed to university education. The resultant demand for higher education led to a substantial increase in university enrolment between 1960 and 1966 and to an extension of university education to students from rural and less affluent homes.

University places. Unfortunately, slow economic growth checked educational expansion from the mid-1960s. University enrolment was 'frozen' for a decade till 1977 and the gap between demand and supply became a major problem of the 1970s leading to a situation where only just over 1 per cent of the age group between 19 and 24 years of age received a higher education.

In 1977, for instance, the number taking the GCE (A level) Examination was nearly 70,000 of whom about 30,000 became eligible for admission to the University of Sri Lanka. As against this, places available in the University were only 4,000.

In July 1977, the Government decided to increase admission for the academic year 1978/79, by 25 per cent. This was made possible by an increase in admission into Engineering from 250 to around 400, into Medicine from 250 to around 400, and by smaller increases into Science and Arts courses.

Nevertheless, the provision of adequate post-secondary educational opportunities remains a crucial issue. There appears to be a need for a pluralistic higher education structure comprising diverse tertiary education institutions.

Employment. Rapid population growth over two decades since 1945, the change from an elitist-oriented higher education system to a more egalitarian structure, and severe economic constraints caused by an undiversified economy, falling export prices and world inflation have had cumulative repercussions on the employment situation in Sri Lanka. Graduate unemployment became an unhappy phenomenon of the late 1960s and 1970s leading to frustration and unrest among youth.

There was much questioning of the relevance of the university curriculum to socio-economic needs but the incidence of unemployment among the technical educated indicated that the crux of the problem was economic underdevelopment rather than education. The migration of Sri Lankans to developed countries and to West Asia and current development programmes such as the Accelerated Mahaweli Development Programme have partially solved the problem of unemployment among some categories of job aspirants. Unemployment, however, is likely to continue to be a problem in the 1980s, particularly among women who have parity in educational opportunity but have relatively more restricted employment opportunities.

University autonomy. The third issue of the 1970s was reflected in the controversy over university autonomy. The University of Ceylon was established in 1942 as a fully autonomous institution. The original intention was to establish it as a unitary, residential university modelled on a British university.

In 1966, the first inroads into autonomy were felt with the enactment of Act No. 20 of 1966 with the Minister of Education being given powers to issue general written directives to the National Council for Higher Education (NCHE), in which ex-officio members outnumbered academics. The NCHE was also empowered to select a vice-chancellor from a panel of three names submitted to it by the

Board of Regents whereas earlier vice-chancellors had been elected by the University Court in which academics predominated.

Present policies

Recognizing the urgent necessity for the rapid development of a system of higher education to provide for the increasing needs and aspirations of the people at all levels, a Ministry of Higher Education was established for the first time in 1978. The Ministry was given responsibility for university and technical education. The Chairman-designate of the proposed University Grants Commission (UGC) was also named as Secretary to the Ministry of Higher Education.

A new Universities Act was passed by Parliament in late 1978, which provided for the establishment of a University Grants Commission, a University Services Appeals Board, universities with their campuses and faculties and other higher educational institutions.

The University Grants Commission. The UGC is responsible for higher educational institutions, including (a) the planning and co-ordination of university education so as to conform to national policy; (b) the allocation of funds voted by Parliament for university education, and the control of expenditure; (c) the maintenance of academic standards; (d) the regulation of the administration; and (e) the regulation of the admission of students.

The UGC consists of a full-time Chairman and four part-time members all of whom are appointed by the President of the Republic of Sri Lanka. The Commission has a full-time secretary and secretariat for implementing decisions.

To assist it in the planning of academic activities, the UGC has set up five standing committees each of which is chaired by a member of the Commission. The Standing Committees are for: (i) Biological Sciences, (ii) Physical Sciences, (iii) Medical Sciences, (iv) Humanities and Social Sciences, (v) Education and Law. An Admissions Committee has been set up to regulate university admissions and provision exists for the appointment of *ad hoc* committees.

The University Services Appeals Board. The University Services Appeals Board is a novel feature in the university system. It consists of a chairman, vice-chairman and another member all of whom are appointed by the Minister of Higher Education. It has responsibility for conducting investigations into appointments and promotions

alleged to have been made in contravention of the schemes of recruitment, to consider appeals from those who have been dismissed, compulsorily retired or otherwise punished, and to consider appeals from employees who are not satisfied with the compensation paid to them on retirement when the new Act came into operation. Decisions of the University Services Appeals Board are final within the university system but further remedy is available in legal tribunals and in courts of law.

Higher educational institutions. Six campuses of the former University of Sri Lanka were converted into independent universities and renamed the University of Colombo; University of Peradeniya, and its Dumbara Campus for arts students; University of Jaffna; University of Kelaniya; University of Sri Jayewardenepura (former Vidyodaya Campus); and University of Moratuwa (former Katubedda Campus).

A new university college—the Ruhuna University College—was established in the south with Faculties of Arts, Science, Agriculture and Medicine. The College is affiliated faculty-wise for academic purposes and for the award of degrees, to a university, e.g., Arts and Medicine to Colombo, Science to Kelaniya and Agriculture to Peradeniya.

The institutes in the university system are : Aesthetic Studies, Kelaniya; Indigenous Medicine, Colombo; Workers' Education, Colombo; the Post-graduate Institute of Medicine, Colombo; the Post-graduate Institute of Agriculture, Peradeniya; and the Post-graduate Institute of Pali and Buddhist Studies, Kelaniya. Each Institute is associated with a university as indicated above.

Technical education. In addition to university education, the Ministry of Higher Education is also responsible for technical education. In 1978, there were eight polytechnics and ten junior technical institutes administered by the Technical Education Branch of the Ministry. Two more junior technical institutes were opened in 1979 bringing the total to 20 and by 1983 it is planned that nearly every administrative district will have at least one such institute.

The Open University of Sri Lanka. This newly established university provides more opportunities for higher education through correspondence lessons with some radio and television programmes, and face-to-face teaching in regional centres. The Open University

does not duplicate courses offered by the traditional universities and the emphasis is on technical and vocational courses as well as on languages. There are no minimum educational attainments required for admission.

Higher education in overall national development. The Government is forging ahead with its plans for national development. Its objectives are to improve the economic, social and cultural life of the people and build up a free and just society. National development activity, however, can only proceed apace with adequate cadres of trained and educated personnel at various levels of management, supervision and skill. The numbers coming out of higher educational institutions are totally inadequate for current needs. The manpower position has been aggravated by the migration of engineers, doctors and scientists to foreign countries.

A serious shortage of science graduates has adversely affected the programme of science teaching since many schools do not have qualified personnel to offer science courses. Similar gaps exist in management and commercial skills in the currently expanding economy, and in research activities in all fields.

Administration, management and organization of higher education institutions

The administration of the higher education institutions is decentralized. Each university has a familiar structure consisting of court, council, senate and faculty with the Department of Study being the smallest unit. The court elects the vice-chancellor and adopts the annual report and the annual budget. The council is the main executive body in which members appointed by the UGC exceed by three the ex-officio members. The senate is the academic authority and consists of academics only. The faculties elect their deans from among heads of department who are appointed by the council on the recommendation of the vice-chancellor.

Academic staff of a university are not transferable but non-academic staff are, and for this purpose a transfer board has been set up by the UGC.

Staff development plans

It was the practice in Sri Lanka universities, until the 1970s, for staff recruited to academic grades to be sent abroad on probationary

study leave, financial provision being made for this purpose by the universities themselves. Foreign exchange constraints then made this impossible and staff training was effected solely through the fellowships awarded by foreign agencies such as Commonwealth Fellowships, Colombo Plan awards and Fulbright Scholarships. Such awards were far too few to go round and several new recruits to the academic staff had no way of going abroad for post-graduate training.

For 1980 the UGC has initiated programmes for the seven higher educational institutions to send some members of their academic staff for post-graduate training overseas. The UGC has also made it obligatory for every probationary Assistant Lecturer to register for a local post-graduate degree wherever facilities are available.

Innovations in the content areas and teaching techniques

There has been considerable experimentation in recent years in content and methodology in higher education institutions. Among these innovations were the introduction of multidisciplinary first year foundation courses, interdisciplinary or integrated degree courses, 'job-oriented' undergraduate courses for arts students and work experience as an integral component of some university courses. The use of course units, continuous assessment techniques, and objective-type tests in some faculties have helped to diversify the hitherto uniform system of evaluation. Some of these experiments have failed to achieve their objectives but they have stimulated thinking in academic circles, and the recent decentralization of the university system has also created the necessary climate for diversified curriculum development.

Promotion of research

There is a considerable amount of published research coming from the universities, as an *Index on Research Publications* compiled for the Ministry of Higher Education in June 1978 indicates. However, much of this is not properly directed and work of outstanding merit is confined to a relatively few individuals.

While university research budgets may be limited, funding for research in the sciences, medicine, agriculture, engineering and social studies presents no problem because the National Science Council disburses grants for well-formulated research projects both to individuals and to groups of investigators. In fact, not all the available funds have been used in any particular year.

International funding agencies provide assistance in a number of areas. For example, WHO and the UNFPA have financed projects undertaken by medical faculties; and the Netherlands Universities Foundation for International Co-operation (NUFFIC) in the Netherlands is interested in social studies.

Innovations

In 1972 the then University of Sri Lanka established the External Examinations Agency and subsequently this institution extended the scope of its activities and was renamed the External Services Agency.

This agency organizes examinations leading to external degrees for those students qualified for admission to the university but unable to find places due to lack of accommodation and has developed extension courses to meet vocational and community needs. It collaborates with the Ministry of Education in organizing distance teaching through correspondence courses for teachers seeking postgraduate professional qualifications and has also introduced courses through the radio for students registered for external degrees.

In addition the agency caters to a wider clientele that are ineligible for formal university courses, by organizing courses to meet their vocational and educational needs. Examples are professional courses for pre-school teachers and new mathematics teachers, and courses in Sinhala for Tamils and in Tamil for Sinhalese, and vocational English for those in employment. When funds permit some seminars and community workshops are organized at national and district levels.

Selection and admission of students

The selection and admission of students to higher educational institutions has been a subject of sharp controversy in recent years. Students are selected for admission on the results of the GCE (A level) examination held each year by the Department of Examinations functioning under the Ministry of Education. Raw marks scored in the test are used for selecting students for admission.

In each discipline, 30 per cent of the places are allocated on an all-island basis according to merit as determined by rank order based on an aggregate of marks; 55 per cent of places are distributed among the 22 administrative districts in proportion to the population

of the district according to merit within each district, and the remaining 15 per cent are distributed among 12 specified educationally underpriviledged districts.

While this scheme, introduced in 1979–1980, helps students in rural districts to gain admission to a course at a lower cut-off point than students from urban schools, the urban students tend to be at a disadvantage. These admission policies are under review.

The long delay between a student taking the GCE (A level) and his entering a university is causing problems to students and university authorities alike. The results of the A level examination held in April are not released until October of that year while the final rank orders after rescrutiny of papers, whenever asked for, are sent to the UGC only in February of the following year. There is thus an interval of nearly 1½ years until the next academic year begins in July, during which a student will be kicking his heels restlessly after leaving school before embarking upon a university career. A scheme of compulsory national service during this period has been mooted but no firm programmes have been formulated.

Student welfare

University students face the two problems of finding suitable accommodation in the vicinity of campuses and financial support during their university careers. The universities have hostel accommodation for only a small proportion of their students. The present policy of the government is that no new hostels will be built at State expense within the campuses and the policy is to limit accommodation to hostels built outside the campus boundaries and to encourage religious and other organizations to provide such accommodation. Every university endeavours to maintain a register of 'approved lodgings' so as to assist students to obtain congenial lodgings at reasonable rates.

Student counsellors have been appointed in all universities to assist those students facing problems of adjustment to university life. Student counsellors from among the younger members of faculty often pose problems themselves as they are either not taken seriously by senior students who were only recently their colleagues or they join students when the latter resort to activity calculated to embarrass the authorities.

The Act allows student representation in the university court and in the faculty, where they are excluded from meetings at which

staff appointments and examinations are discussed. Students can have no representation in either the council or the senate.

The Act also permits student assemblies in higher educational institutions. Office bearers of the assembly are elected at the beginning of each academic year by the entire student body according to proportional representation, each faculty constituting an electorate. Power is further diffused throughout the assembly which functions through committees for each major area of activity such as sports, social, freshers and so on. In addition to the president and secretary of the assembly each committee has its own chairman and secretary.

The universities award scholarships, prizes and other awards which are endowed by benefactors. These have been in abeyance for many years and are being revived.

For all students who need financial support the Government has instituted a Bank Loan Scheme operated through an Act of Parliament. The maximum loan permitted is Rs. 2,250* per year given in ten instalments according to a student's financial position. The Bank Loan Scheme is operated in alternate years by the Bank of Ceylon and the People's Bank. Loans are recovered by the banks after the students obtain employment. Problems have been encountered regarding recovery and the law is being amended to tighten the loopholes.

Inter-country and regional co-operation

Co-operation is limited at present to bilateral schemes between individual universities and certain developed countries. Existing co-operative programmes have been formulated by individual institutions, often by the more enterprising individuals in such organizations. Little attempt has been made to tackle this problem from a national point of view. Language has been a barrier in the promotion of collaboration with other developed countries or with countries in the region where English is not one of the national languages.

Regional co-operation is practically non-existent and could well be initiated and developed. Unesco could play a positive role in facilitating an exchange of ideas as well as disseminating experiences in higher education among countries in the region, particularly with regard to structural and curriculum development. □

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* Approximately 20.90 Sri Lanka rupees = One US dollar

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

THAILAND

by Wichit Srisa-an

Introduction

The National Scheme of Education of Thailand, effective since 1977, has defined 'higher education' as 'education after secondary education'. Subsequently, post secondary educational institutions at all levels and categories are a part of higher education. Institutions of higher learning come under two groups; government and private. Both are under government supervision for the reason that it is deemed that the provision of education is the function of the state. The government may delegate the sharing of this responsibility to the private sector but it remains under government supervision.

Today there are 14 government universities and institutions in Thailand. They comprise 12 traditional universities, an open-admission university and one distance teaching university. There are also 11 degree-granting private colleges. Both government universities and private colleges are under the jurisdiction of the Ministry of University Affairs. Each university is given the status of a government department within the Ministry, and university teachers are civil servants receiving salaries and fringe benefits equivalent to those of civil servants in other government departments and ministries. In addition, approximately 118 degree-granting institutions and non-degree post-secondary colleges operate under the supervision of the Ministry of Education and the Ministry of Public Health as shown in the table on the following page.

The analysis of relations between higher education and development in Thailand will be confined to the 'university' type of education. That is because other types of higher education institution normally emphasize teaching solely for the purpose of producing graduates. Universities in Thailand are comparatively more comprehensive in both programme offerings and major functions including teaching, research, community services and cultural preservation, and promotion.

Classification of higher education institutions

Support \ Control	Ministry of University Affairs	Ministry of Education and others
Government	Government Universities	Government Colleges
		Ministry of Education
		1 College of Technology and Vocational Education with 28 campuses
		32 Vocational and Technical Colleges
		3 Commercial Colleges
		13 Agricultural Colleges
		36 Teacher Training Colleges
		7 Physical Education Colleges
		1 Dramatic Arts College
	11 universities	1 Fine Arts College
	3 institutes	Ministry of Public Health
		7 Nursing Colleges
		Government Specialized Institutions
		Other Ministries
		4 Military/police academies
		2 Military/police nursing schools
		10 other ministries' schools
		1 Nursing College under Bangkok Metropolitan Administration
Non-Government	Private Colleges	Private Specialized Institutions
		1 Nursing College of the Bangkok Seventh Day Adventist Hospital
	11 private colleges	2 Buddhist Colleges
		1 Asian Institute of Technology

Like the other nations of Southeast Asia, Thailand is experiencing a period of constantly accelerating diversification and growth in its institutions of higher education. The need for such change was initially stimulated by the manpower requirements and social attitudes which followed the Second World War, and then skyrocketed when the Southeast Asian conflict precipitated a vortex which drew the latest foreign technology into Thailand at a rate almost too fast to permit assimilation. As attention from abroad started local industries spiralling, the urgent need that arose for specialists in fields

which had barely progressed beyond zero point before 1960 became an issue that is probably familiar in all countries in the area.

Although it was accomplish under enormous pressure, post-war high-level educational development in Thailand did not start from scratch, nor did it lack organization. Even the most recent policies have evolved from a tradition which can be traced directly back to the foundation of the country's first university, Chulalongkorn, in 1917. The task of Thai educational planners and administrators was, therefore, not only one of funding and staffing the 'flash-flood' of new degree-granting institutions, but also of control and consolidation into a form reconcilable with the system of education which has grown along with Thailand's modern culture and economy for more than half a century. Only in such a way could a sense of continuity and national identity be preserved in arranging to meet the educational and manpower needs triggered by new concepts of industry, technology and management in modern Thailand.

Historical perspective

Thailand's first universities were founded exclusively to provide skilled personnel for government service. By the time Chulalongkorn University achieved its status as a university by Royal Decree in 1917, it had already existed since the end of the previous century in a series of embryonic forms, such as the Royal Pages' School and the Civil Service College.

Until well into the post-Second World War period the growth of Chulalongkorn University correlated with steps taken for modernization by the Government. Expansion of the curriculum occurred only when specialists were needed in areas not covered by existing educational facilities. Students desiring knowledge in fields of study beyond the compass of Thai university curricula for reasons unconnected with government work comprised a tiny elite who pursued their education abroad.

Immediately after the revolution of 1932 which transformed Thailand from a monarchy to a democracy there was a need for government officials trained in the techniques of democratic government. In response the University of Moral and Political Science (Thammasat University) was established in 1933 to provide the training necessary to produce political leaders and civil servants of the new type.

Total affiliation between the Government and the universities underlay the foundation of three more institutions in 1942: the University of Medicine (Mahidol), the University of Agriculture (Kasetsart) and the University of Fine Arts (Silpakorn). Once again the function of these institutions was to provide government personnel trained to a high-level of competency in their respective disciplines and professions. By the end of the Second World War there were five universities established in Thailand and although their specialization may be called into question, their status as universities and their combined function as an organized system of higher education cannot be denied.

After 1945 this system became the foundation of a new era of controlled development that may be the most intense ever experienced anywhere. As the media and transportation facilities which had been developed to vastly increased levels of efficiency by the needs of the war began to homogenize world culture, the previously rather hermetic traditions of Thailand were brought into contact with progressive western methods under high pressure. The university educational system as it stood became obsolete, geared as it was to the needs of the pre-war Government.

As advisers began to pour in from abroad, the cry went up from private industry for experts trained in areas of technology previously unheard of in Thailand. With the coming of the Indochina War in the early 1960s and its subsequent escalation, this process of adaptation and diversification became so frenetic that a series of five-year development plans was put into action to help steer it towards the fulfilment of burgeoning manpower and research requirements. The forces affecting development of higher education had completely shifted. Before the war the university functioned as a training ground for government personnel; now the developments of the post-war decades catapulted it into the role of supplier of specialized manpower to both public and private sectors. Consequently it became the most important force in national development.

Recrystallized social demands began, for better or worse, to place university education in a seductive light it had not previously enjoyed. This phenomenon, observed by Dr. Ivan Illich[1] made high-level education the ultimate status symbol, dividing those who had

1. Illich, Ivan D. *Deschooling society*. New York, Harper and Row, 1974. 116 p.

'made it' from those who had not. The number of high-school graduates demanding access to higher education rapidly increased.

By the late 1960s and early 1970s, institutions of higher learning organized around specialized areas of learning were opening at the rate of almost one a year, along with more diversified institutions being founded for the first time outside the capital city of Bangkok. Chiangmai University opened its doors in 1965 to be followed by Khon Kaen University (1966), the National Institute of Development Administration (1966) and Prince of Songkhla University (1968). In 1969 a law was passed permitting the establishment of private colleges of advanced learning, for the first time. Despite their having no financial support from the Government, these private colleges organized their curricula to satisfy manpower requirements by emphasizing technical and business studies, thus illustrating once again the importance of manpower demands as the chief force behind educational development in Thailand.

The concept of the Open University made its debut in Thailand with the inception of Ramkhamhaeng University in 1971. Ramkhamhaeng University makes higher education available to students who, for either financial, geographic or academic reasons, have no access to the country's selective admission universities. As an academic market university, Ramkhamhaeng University adopts an open admission approach to classroom activities where attendance is optional. By 1979 student enrolment had reached 110,000 and a second campus was required.

To allow Ramkhamhaeng University to restrict the number of students and at the same time to provide broader educational opportunities to working adults, the Thai Government in 1979 established a new open university called Sukhothai Thammathirat Open University. This new university has no normal classrooms and adopts the distance teaching and learning system. The teaching and learning process depend largely on integrated media, correspondence, radio, television and tutorial services at various study centres located throughout the country. It is open learning based on the principle of lifelong education. The idea has been advanced, for example, that the Open University might provide the ideal answer to the country's crucial need for a 'second chance' education. Working professional people would accordingly be able to update their knowledge and upgrade themselves by enrolling in courses which would not conflict

with their work schedules. Others, forced to interrupt their studies to seek employment would be able to continue to study in their own time.

The present situation

Although Thai university education is now approaching the point where it can be considered favourably in quality and scope by international standards, there are still many obstacles that pose severe problems to administrators working in the field of educational planning. As the central agent of national development, the university is being called upon to meet manpower requirements that would have been unimaginable a decade ago. Computer science, agro-industry, solar energy and appropriate technology are a few of the dozens of areas of knowledge that have shifted from the periphery to the centre of concern. Thailand has far too few specialists in most of these fields. Before the country's universities can fulfil their basic functions of research and dissemination of knowledge, the crippling shortage of staff, funding and facilities must be alleviated. Although these needs are most pressing in the regional institutions, even the best endowed of the universities in Bangkok are severely handicapped by these drawbacks.

The series of five-year development plans initiated in the 1960s aimed to foster controlled expansion and focus it directly into those areas considered critical in relation to national development. The first two Educational Development Plans were oriented directly towards economic development, with the object of providing high-level manpower. The Third Plan at the request of the universities, placed a greater emphasis on research and social and cultural development in addition to supplying high-level manpower. Institutes for Population Studies, Thai Studies, and Computer Science were established in several universities under the provisions of this Plan. The Fourth Plan, currently in effect, aims to strengthen manpower production, research, community services and cultural preservation and promotion.

To date the plans have been largely successful in channelling educational expansion to the national advantage. There have been miscalculations—as is inevitable when long-range forecasts must be taken as the basis for policy-making—resulting in overfulfilment of certain formerly pressing manpower demands. At present, for example, more graduates in social sciences and humanities have been

produced than can be absorbed. But the advantages of the plans greatly outweigh the mistakes, and the Educational Development Plans have so far been a qualified success.

Problems and prospects of expansion and consolidation

As should be evident by now, most innovations in the Thai higher education system have been in the direction of expansion, as consolidating measures were more or less built into the policy of allowing university growth to follow the lines of the existing system. Most of the problems that have been encountered in the post-war boom have been solved by exercising selectivity and control over logical extensions of this system. Still, the almost total specialization of most of Thailand's universities which extended into the decade after the war suggested that the effectiveness of the system, and its capacity for accelerated growth, would be strongly enhanced by consolidation.

This need was diagnosed by Sir Charles Darwin when he visited Thailand under the auspices of Unesco in 1954. After discussing the unsuitability of the word 'university' when applied to such specialized institutions as the University of Fine Arts and the Medical University, and lamenting the lack of a shared set of standards among Thailand's five universities, Sir Charles speculated:

> The best way of reforming the institutes of higher learning in Thailand will be to adopt a general pattern like that of London. The five universities should be called colleges and combined into a single federal university like the University of London, though there is no need to follow the details of its construction exactly. As long as Bangkok is the only strong centre of learning in Thailand—and merely on account of the shortage of suitable staff this must certainly be so for many years—there is no need for a second body like the University Grants Committee to exist separately, since the governing board of the university could fulfil both functions.[2]

Although its recommendations were not followed exactly, the report exerted a strong influence on government university policy.

2. Darwin, Charles, Sir. *Report to Unesco on science in Thailand.* Paris Unesco, 1954. p. 31

The five universities were not grouped together into a single institution; instead, in 1959 they were put under the direct control of the Office of the Prime Minister. Under this arrangement, teaching and academic standards were aligned and the stimulation and control of growth more effectively achieved.

The next major official consolidating effort was made in 1972, with the setting up of the Office (now the Ministry) of University Affairs. The close co-operation made possible through the establishment of this Office produced a 'family of universities' that is very much in the spirit of the improvements envisioned in the Darwin Report. The Office of University Affairs fulfilled for the first time the need for a single consolidating agency which permitted the universities themselves to have access to Cabinet.

Another co-ordinating measure is the bi-monthly Rectors Conference which facilitates communication between the 14 currently existing state universities by giving the rectors of these institutions an opportunity to exchange ideas and discuss problems. The conference does not intrude into matters of specific concern to one particular institution; its distinguishing feature is its limitation of discussion to issues of common interest to the member institutions.

Finally, joint research projects, co-operative programmes involving such procedures as faculty exchange, a common academic calendar, the sharing of certain facilities, and student cross-registration, all play roles in consolidating the higher education system.

Conclusion

In the past two decades, higher education in Thailand has expanded rapidly. Initially the 'manpower approach' was the main theme of expansion. In the last decade, the desire of the people to receive educational opportunities has greatly increased. This has resulted in the universities finding ways and means to meet their educational desires with rather limited resources. The 'approach' adopted was a parallel between the application of the 'social demand approach' and 'manpower approach'. The important problem was to find an 'ideal' balance between the two approaches.

Comparatively speaking, restricting the number of students in the selective admission universities to conform with manpower requirements is less difficult to implement than carrying out the same restrictive measure in open universities—sometimes virtually

impossible in the latter case. The problem of unemployment will become more intensified for graduates from both normal and open universities in the same fields of study. One possible solution, however, is to restrict the admission to Ramkhamhaeng University at a decreasing rate and, at the same time, offer distance learning as a continuing education opportunity for the masses as a part of 'to learn and to live' under the adult education programme.

Though Thai universities legally have teaching, research, community services and promotion and preservation of national culture as their main functions; in reality, they are the supplier of high-level manpower more than anything else. Perhaps the universities should play a more active role directly related to national development and become a 'knowledge industry' to foster academic advancement. The resultant progress in technology should act as a stimulating factor in the development of manhood, manpower and most important, the 'brain power' of the country. The universities have received the blessing of the Government to intensify and expand their efforts in the four stated basic functions to fulfil national development needs more effectively. It is hoped that higher education in Thailand will be more development-oriented in the years to come. □

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SECTION THREE

ASPECTS OF HIGHER EDUCATION IN ASIA AND THE PACIFIC

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

ROLE OF UNIVERSITIES IN INTERNATIONAL CO-OPERATION FOR DEVELOPMENT

by Malcolm S. Adiseshiah

Background

The area of international co-operation for development is wide ranging and many faceted. It comprises multilateral agency activities including the review of national development plans and the forecast of trends in the world economy by the United Nations system of agencies both in overall and sectoral terms covering trade, industry, food and agriculture, health, labour, education, science and culture. Their development action programmes include those under the General Agreement on Tariffs and Trade (GATT), the World Bank International Development Association and the International Monetary Fund. The technical assistance activities of these agencies and the United Nations Development Programme culminated in the formulation of the New International Economic Order (NIEO) and the International Development Strategy for the Third United Nations Development Decade which is now caught up in the North-South global negotiation deadlock.

There are regional activities promoting international co-operation for development. For example the Economic and Social Commission for Asia and the Pacific (ESCAP) conducts wide-ranging regional programmes dealing with such diverse activities as transport and roads, coconut production and the Mekong River development scheme. There are also sub-regional programmes such as that of the Association of Southeast Asian Nations (ASEAN) in economic, fiscal, educational and scientific fields. Finally there are bilateral activities which are important to the flow of capital resources between countries, both governmental and private, in the transfer, exchange and purchase of technology, and in co-operation in the fields of industry, agriculture, trade, education, science and culture. This is only a thumbnail sketch of the growing field of international development co-operation. At this moment there is a setback in this area due to the ideology of the new administration of what has till now been the

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leading country in development co-operation. The forces of inflation, recession and growing unemployment in the industrialized North, which has been in the forefront of development co-operation has forced these countries to turn inward and feed protectionist trends. This has given rise to 'South-South' co-operation plans which are still in the very early stages of discussion and formulation.[1]

Role of the universities

In this situation, the role of the universities in the area of international co-operation for development is one of particular and perhaps decisive importance. That role may be divided broadly into (a) the acquiring and dissemination of knowledge and information about international co-operation for development; and (b) the university action programmes that promote international development co-operation.

Knowledge and information. The extent to which the universities are building information about international development co-operation into their curricula and teaching programmes is generally unsatisfactory. It is also variable, in that universities in smaller countries like Malaysia, the Republic of Korea, Singapore and Sri Lanka include studies of international development and development co-operation. Perhaps this is because their economies are so closely tied to the world economy. This is equally true of the universities of the industrialized part of Asia and the Pacific, Australia, Japan and New Zealand. It is perhaps because of their geopolitical position in relation to other Asian and Pacific island communities that there is a great deal of study and instruction about development at the international and particularly at the regional and sub-regional levels in their universities.

In most universities in the large countries of Asia—Bangladesh, China, India, Indonesia, Pakistan and Thailand—there are no means for either teachers or students to acquire information on the various facets of international development co-operation. A few universities conduct area studies which specialize in the study of a group of countries. The reasons for this are perhaps connected with the preoccupation of this group of countries with their own massive economic, social and cultural problems.

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1. Gupta, S.R. and Shrivastava. *North South dialogue.* Bombay, Allied Publishers, 1982. 112 p.

In connection with this the International Institute of Educational Planning recently conducted an investigation into the contribution Asian universities can make to the NIEO. A questionnaire on NIEO, including questions on its teaching, its place in the study of political science and international relations and the contribution which the science departments and engineering and agricultural universities can make to the development of the region, was sent to 350 universities. Seventy per cent replied and all stated that NIEO was not part of the syllabus. Some universities were quite frank in asking what the NIEO was.[2]

With the exception of Australia and Japan, there is an absence of any meaningful study or research in the universities of Asia and the Pacific on the problems of development co-operation on which regional governments are negotiating in various international forums. These include the Tokyo Round of GATT, the Multi-Fibre negotiations which ran for over three years, and the Law of the Sea Convention discussions which have now lasted eight years; the North-South negotiations and the International Development Strategy for the Third United Nations Development Decade, and the various regional conventions on the equivalences of diplomas and degrees that Unesco has helped to develop. Unlike the universities in the industrialized countries, whose studies and research results are inputs in the national briefs of their delegations at these conferences, the Asian universities contribute nothing to the position taken by their governments on these international co-operation issues. The governments are thus at a serious disadvantage *vis-a-vis* the delegations from the North in negotiations.[3]

This university role of acquiring and diffusing knowledge and information on international co-operation for development needs to be recognized and acted on by universities in Asia and the Pacific. The core group for study and research in this field is the Faculty of

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2. Adiseshiah, M.S. *Contribution of universities in Asia to NIEO.* Paris, International Institute of Educational Planning, 1979. 28 p. Typescript.

3. Luo Quinshang. *Some views on the question of transfer of technology.* Beijing, International Trade Research Institute, 1980. 6 p. Mimeo.

Tay, A. *The new International Economic Order: a literature survey.* Singapore, Economic Research Centre, National University of Singapore, 1980. 44 p.

(Both for Second Asian Regional Workshop sponsored by SCRIER and Marga Institute).

Political Science and International Relations in each university, but there is an important place in such study for the Economics, Sociology and Science and Engineering faculties also. At the undergraduate level a course on International Co-operation for Development can be made part of the foundation courses. The kind of syllabi in the various disciplines devoted to international development co-operation can be reviewed and updated by associations or groups of universities.

Extra curricular activities such as seminars, study groups and essay competitions may also be developed by the universities and organizations involved and interested in international trade, technical assistance and technology transfers. More specifically there is a need for the university groups, in co-operation with business, industry and the government to undertake studies which can serve as inputs to government negotiations on development co-operation. In the large countries, this is a gap in university studies and research which must be urgently filled. Unesco and the International and Regional University Associations should make this function a priority.

Development co-operation action. In the field of action in development co-operation, all the countries have got away to a good start, despite their recent independence status, and the relatively short period in which universities have been in existence in most countries of Asia and the Pacific. There are exceptions to this. For example, the Beijing and Tokyo universities[4] can be traced back to Confucian academies and the University of Santo Tomas in the Philippines dates back to 1619.[5] The generality is that most universities in South and Southeast Asia were established after the mid-twentieth century. The fairly recent but rapid development of third level institutions and their students in the 1970s can be seen in Table 1 on the following page.

Table 1 shows that despite the recent development of third level institutions, Asia and Oceania during the 1970s, had approximately a quarter of the world's third level students and that their numbers increased by about 50 per cent during this period. Of the 11 countries listed in the table, the largest student bodies are found in India,

4. Reischauer, E.O. *The Japanese.* Cambridge, Harvard University Press, Massachusetts, 1977. p. 167-170, 443 p.

5. *University of Santo Tomas: general bulletin.* Manila, 1959. p. 3 and 4, 52 p.

Japan and the Philippines. When student numbers are related to every 100,000 inhabitants of their population, the leading places are occupied by New Zealand, 2,539 (not shown in the Table); the Philippines, 2,350; Australia, 2,189; Japan, 2,129; and Hong Kong, 1,148 (not shown in the Table). The lowest ratios are China with 92 and India, 229.

Table 1. Enrolment in third level institutions

Countries	1970	1975	1978
World	29 million	39 million	42.6 million
Asia and Oceania	8 "	10 "	11.3 "
Afghanistan	7,732		21.118 "
Australia	179,664		309,783
China		600,000 (1977)	856,322
Fiji	442		2,750
India	2,903,551	4,615,992	
Japan	1,819,323		2,432,052
Papua New Guinea	1,032		2,887
Philippines	651,514		1,129,056
Singapore	13,771		24,114
Socialist Rep. of Viet Nam		80,323	137,002
Thailand		130,965	277,019

Source: *Unesco statistical yearbook 1981.* Tables 2.2 and 3.11.

Foreign students. One area of development co-operation by the universities of this region is to be found in the admission of students from other countries and regions, who are given the education and training they desire. Table 2 (pages 101 and 102) gives details of the foreign students that eight countries of the region have received in their third level institutions.

Table 2 is selective, leaving out countries like Indonesia, the Republic of Korea and Thailand, whose third level institutions also participate in this form of development co-operation but on which information was not reported to Unesco. Unesco also states that the eight host countries in Table 2 along with 37 countries from other regions enrol about 90 per cent of all foreign students between them and in that sense the Table is indicative, if not comprehensive. The eight Asian and Pacific countries reported in the Table are educating

approximately 50,000 students, 60 per cent of whom are from countries of the region. The majority of these students (over 70 per cent) are being trained in engineering, technical, agricultural and medical sciences and in the natural and physical sciences, so that the universities in the Asian and Pacific region are playing a major role in training development specialists for other Asian and Pacific countries. Their contribution to the training of African personnel is also significant. The one major advantage of this action by the universities is that it not only pioneers the currently discussed area of South-South co-operation, but is also a form of education and training which is undertaken in socio-cultural conditions similar to those the students will face at home on their return. Hence it is a form of development co-operation which does not lead to the brain drain referred to later.

The opening of universities in Asia and the Pacific to students from abroad is part of a world-wide role which universities in every country are undertaking. An examination of Table 2 shows that the admission of (mostly government sponsored) foreign students by a university in the region is very largely based on the foreign policy directions pursued by the country in question. Perhaps the next stage is for universities to be provided with some funds of their own which they can make available as scholarships to foreign students on the basis of merit and specialization, and not only in response to governmental bilateral relationships.

Technical assistance. The universities have a role to play in helping countries in their economic, social and educational development. This role is actively undertaken by the universities in Australia, Canada, France, Japan, the Netherlands, the Union of Soviet Socialist Republics, the United Kingdom and the United States. Senior staff are made available to developing countries as experts and advisers in the formulation of national plans, in developing agricultural education and farm research, in promoting primary health care, in reforming education and generating science research. This technical assistance from the universities is in some cases made available directly by the universities, as in the case of Harvard to the Pakistan National Planning Commission, Princeton to the area studies in Thailand or the Toronto University to the University of North East China. Sometimes the assistance is given through the United Nations agencies as in the case of the Institute of Development Studies, Sussex for the ILO mission on Employment to Colombia, Kenya and Sri Lanka,

Table 2. Foreign students in universities

Country	Host countries and year of reporting							
	Australia 1978	China 1980	India 1977	New Zealand 1978	Japan 1978	Pakistan 1976	Philippines 1978	Singapore 1978
Total foreign students	8,760	1,381	7,726	2,738	15,006	1,690	11,763	1,117
Africa	298	386	2,131	38	69	176	160	–
North America	329	98	98	85	927	5	3,054	–
South America	27	8	40	6	221	–	–	–
Europe	358	301	244	28	392	8	–	1
Oceania	820	40	330	568	80	1	–	–
Asia	6,807	548	4,870	1,998	13,284	1,500	8,549	1,116
Afghanistan	5	–	205	–	21	4	–	–
Australia	–	30	7	46	59	–	–	–
Bangladesh	94	13	119	10	39	–	–	–
Bhutan	3	–	108	3	–	–	–	2
Brunei	6	–	–	5	–	–	–	3
Burma	16	–	19	3	18	4	–	4
China	42	–	3	15	3,586	35	334	11
Democratic Kampuchea	–	14	–	4	14	–	–	–
Fiji	192	–	322	359	–	–	–	–
Hong Kong	888	–	–	17	115	–	–	8
India	162	3	–	23	44	–	–	–
Indonesia	552	–	20	25	140	4	232	123
Iran	16	9	1,081	5	34	275	2,335	–

Table 2. Foreign students in universities (cont'd)

Country	Host countries and year of reporting							
	Australia 1978	China 1980	India 1977	New Zealand 1978	Japan 1978	Pakistan 1976	Philippines 1978	Singapore 1978
Japan	153	255	27	18	–	2	111	–
Lao People's Democratic Rep.	39	–	6	1	8	–	–	–
Malaysia	3,568	–	872	156	144	35	113	908
Maldives	4	–	–	2	–	–	–	–
Mongolia	–	–	–	–	4	–	–	–
Nepal	8	18	1,147	6	11	9	–	–
New Zealand	261	10	1	–	20	–	–	–
[Other] Pacific Islands	3	–	–	38	–	–	–	–
Pakistan	53	28	–	10	15	–	–	–
Papua New Guinea	276	–	–	7	–	–	–	–
Philippines	78	2	3	25	100	–	–	–
Republic of Korea	49	70	3	6	8,395	9	91	–
Samoa	12	–	–	97	–	–	–	–
Singapore	430	–	37	143	56	–	–	–
Socialist Republic of Viet Nam	94	–	1	14	227	–	–	–
Sri Lanka	158	31	304	13	27	15	–	–
Thailand	295	–	506	66	241	63	1,646	9
Tonga	30	–	–	21	–	–	–	–

Source: *Unesco statistical yearbook*, Paris 1981. Table 3.16

and on the science missions from the Royal Society, London, through Unesco to Thailand and Tanzania. Another way is through the government of the country in which the university is situated as in the science teaching mission from the University of Moscow, to Pakistan or the consortium of polytechnics of the Soviet Union which helped in developing the Indian Institute of Technology in Powai, Bombay.

Universities in Asia and the Pacific are only at the beginning stages of providing technical assistance for international co-operation for development. Japanese universities have been active in providing expert staff for the development of small scale industries in Burma, India and Thailand; expanding the printing and publishing industry in Indonesia, Pakistan and the Philippines; and for training university and industrial engineers in China in computer programming and electronic technology. Similarly Australian universities have provided technical assistance to India and Pakistan in arid zone research and in educational planning to Malaysia and Thailand. They have also given assistance in the use of television, radio and other audio-visual media both for formal education and distance learning to Indonesia, Malaysia, the Philippines and Singapore. The Southeast Asian Ministers of Education Secretariat (SEAMES) has started using the universities in the five member countries in various energy, industrial, educational and scientific programmes. It has established a centre for higher education in Singapore which both stimulates and co-ordinates the activities of the universities in the SEAMES area in development co-operation, and helps in forging links with universities in other countries. Over the past decade, the Unesco Regional Office for Education in Asia and the Pacific in Bangkok, through the Asian Programme of Educational Innovation for Development (APEID), has brought together in the network that it has established, a certain number of third level institutions in the Asian and Pacific region. Among other functions, they pool their resources, experiences and expertise for co-operative educational development programmes in the region.

One of the two major educational needs identified by the periodic conferences of Ministers of Education in Asia, Africa, the Arab lands and Latin America, is the reform of the educational system. The other is the continued quantitative expansion of the system to provide universal primary education and to abolish adult illiteracy. In the area of educational reform, many national and

cultural sensibilities are involved in each country, and hence the use of the educational departments of the universities and other third level institutions in the APEID network is emerging as an effective and acceptable form of co-operation in this sensitive area. That also is the experience of the Latin American and Caribbean countries who have, under the auspices of Unesco, launched a major project to universalize education, abolish illiteracy and reform the system by A.D. 2000. This is being accomplished with the help of their own inter-American university and other higher education personnel as far as manpower is concerned. There is a need for the Unesco Regional Office for Education in Asia and the Pacific in Bangkok, to extend its programme to enable university staff of the region to provide all the expertise that each country may need in the education field.

The role of the universities in the field of science and technology is an even more specific and direct form of international development co-operation. The decennial United Nations Conference on the Application of Science and Technology for Development and the frequent regional Unesco Conference on Science and Technology in Asia, Africa and Latin America pool together the science resources of the universities and chart out international and regional plans for the use of science and technology for development. The extent to which the science education and research facilities and technology training facilities of the universities of the region are being used by the science and engineering students of the region has been earlier noted. There is a massive contribution by the universities of the industrialized North in training scientists and others from the developing countries, as shown in Table 3 on the following page.

The *Unesco Statistical Yearbook* provides similar information for 17 other industrial countries.

The brain drain. This table is also useful in gauging the extent of the brain drain faced by the developing countries. With the exception of the Soviet Union, about 10 per cent of the students going to study in these countries, find employment in the host country and settle down there. This applies particularly to the scientists and technologists studying in the United States and the medical scientists in the United Kingdom and the same groups to a lesser extent in France and the Federal Republic of Germany. Today almost no Asian student trained in computer programming in the United States returns home. Several estimates have been made of the technical and

capital assistance given in reverse by universities of the developing countries to universities and research programmes of industrial countries through the brain drain. The writer estimates the value of the scientists and technologists lost by the developing countries, computed in terms of what has been invested in their education by the home countries, as being equal to about half of the Official Development Assistance made available by these countries to the developing countries concerned.[6]

Table 3. Students from developing countries in the universities of the industrialized North

Country report 1978	Total foreign students	African students	Asian and Pacific students	Latin American and Caribbean students
United States	263,940	33,990	151,430	40,520
France	108,286	55,747	20,403	7,591
USSR	62,942	13,654	21,627	10,165
United Kingdom	59,625	12,888	30,054	3,189
Germany, F.R.	55,337	4,196	21,816	3,025

Note: The Africa, Asia and Pacific and Latin America students represent only a fraction of the total foreign students.

Source: *Unesco statistical yearbook 1981.* Paris, Table 3.16

One specialist, in this context, also calls attention to the two kinds of internal brain drain which universities in developing countries face. He refers to 'brains draining downward into an intellectually arid soil where they deteriorate as a result of intellectual isolation and stagnation'. The second type of internal brain drain is when those with the best brains leave aside an academic career because of its sterility, and enter business or government employment.[7] One means of countering this brain drain—external, which is massive and expensive; and internal which enfeebles the university if not the country—is for each country to develop a few elite universities which are well equipped and endowed, and which have high standards for

6. Adiseshiah, M.S. *Its time to begin.* Paris, Unesco, 1972. p. 30–51, 182 p.

7. Shils E. "Foreward" in Shan A.B. *Education, scientific policy and developing societies.* Bombay, Manaktalas, 1967. p. IX and X, 506 p.

their staff. In other words they should represent peaks of excellence, thus enabling the universities to retain the best brains and use them in the vast area of development and international development co-operation.

In the field of science and technology, in agriculture, engineering technology transfers, and the development of intermediate technology, the universities of the developing countries have an essential role. The United Nations University has established a network of third level institutions including those in developing countries which are developing co-operative programmes in food production and preservation. The agricultural universities and agricultural research institutions in India, Mexico, Pakistan and the Philippines are in the forefront of development co-operation. The Mexican wheat varieties (further adapted by Pakistan research), the Philippines International Rice Research Institute high yielding rice varieties, India's agricultural institutions, including the International Crops Research Institute for the Semi-Arid Tropics, Hyderabad, and the Arid Zone institution in Jodhpur are a few examples of the development role played by third level institutions. The work on biogas by Chinese scientists and solar and wind energy by Indian and Pakistani scientists indicate progress in the development of new sources of energy. In the design and fabrication of agricultural and small industry tools and appliances, the engineering institutions in Brazil, Ethiopia, India and Nigeria have made important contributions. It is only the universities and third level institutions and the scientists and engineers in the developing countries that can make the scientific and technological break-through needed for industry, agriculture, and health in the climatic, geological and socio-cultural environment which characterizes the tropical South. The third level institutions in the developing countries should be more active in promoting an interchange of these technologies.

Internal development. To perform an effective role in international development co-operation, universities must first perform an effective role in national development. In this sense, there is a difference in the precondition for the international development co-operative role of the universities in the industrialized countries, and that of the universities in the developing countries. In the industrialized countries the pre-condition and rationale for university participation in development co-operation can be traced back to the colonial days

and more recently to the fact that the world power focus is on the industrialized North. A United States scholar expresses it thus:

> Since the beginning of the twentieth century, American colleges and universities have been increasingly influenced by world affairs and by the rising importance of foreign policy and international relations in the United States . . . Hardly an aspect of academic life has escaped the influence of world events and movements. And the changes which have occurred or are now in process seem certain to be followed by additional influences and adjustments through the indefinite future.[8]

Those of us in the developing world are constantly reminded that the university is a foreign creation as, 'A fundamental feature of university life in Southeast Asia is that it has been imported from abroad, with ready-made value systems sometimes already crystallized in institutions, techniques and attitudes'. Even 'new' thinking on the university is said to be inspired by comparisons and contrasts between the different imported colonial models—Australian, British, French, the Netherlands, New Zealand and the United States with a touch of Spain.[9]

There is need for the Asian and Pacific universities to make a fresh start beyond the classical functions of teaching, learning and researching that have been handed down. In addition to conserving and diffusing knowledge and investigating its frontiers, universities must perform a further function and serve the local community, so helping national development. This function must run through the entire structure, from the undergraduate to the research sub-system. This contribution of the student and teacher to development must be as much a part of the curriculum as classroom learning, laboratory work or library study. The student must be given academic credit for it and it must form part of the teacher's workload. The learning process requires both exercises in abstraction, which is theory building and conceptualizing, and applying the theory to the world of work.

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8. Wilson, H.E. "Preface" to C.O. Houle and C.A. Nelson. *The university; the citizen and world affairs.* Washington, D.C., American Council on Education, 1956. p. IX, 363 p.

9. Silcock, T.H. *South East Asian university.* Durham, North Carolina, Duke University Press, 1964. 184 p.

Under supervision undergraduate physics students can work in the village on the repair and maintenance of agricultural implements and those studying language can conduct adult education classes. Chemistry students and teachers can work on soil classification, water management and fertilizer application. Engineering and technology students and teachers can develop appropriate technologies to improve small cottage and home industries and organize the desilting of tanks and ponds. Medical students and teachers can serve in primary health centres. Home science students and staff can improve the nutritional status of the rural poor. Students and teachers of history and archaeology can identify, clean and preserve local monuments. Students and staff of political science can study the pattern of decision-making networks in the villages and work with village governments and co-operatives. This can be extended to post-graduate teachers and students and research scholars.[10] On this basis of service to the development of local communities, the universities in our countries can contribute internationally to development co-operation.

In June 1950 in Paris, I was called into the office of the Director-General of Unesco, Jaime Torres Bodet of Mexico, who said to me 'I have received a cheque for US $3 million from the Secretary-General of United Nations, for Unesco to provide its member states with what he calls "technical assistance." Do you know what this "technical assistance" means and can you take on this task?' I replied, 'I do not know what technical assistance means, but I know what poverty means and what to do about it, because Gandhiji called it the constructive programme. As the Professor of Economics in the University in Madras, I went to work with my students in 16 surrounding villages, as part of our academic work, helping them to increase their agriculture production and incomes, teaching them dairy farming, poultry keeping, handloom weaving and other crafts, improving their health status with the help of the university medical students, and establishing primary schools and adult literacy classes in each village with the help of the education staff and students. Yes, I will take on the task.' So started Unesco's technical assistance programme in 1950 for which I mobilized the universities of the member countries. With UNDP, IDA, UNICEF and World Food assistance it now operates at around US $300 million, I believe. □

10. Adiseshiah, M.S. "Preface" to Devadas R.P. *Community and social science as curricular component in higher education.* Madras, University of Madras, 1977. p. IV, 100 p.

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

HIGHER EDUCATION AND CULTURE

by Ungku A. Aziz

Higher education is culture. This statement is true if we believe that the main purpose of the apex of the whole education system in a country is to prepare each successive generation for the management of its destiny. In this context, culture becomes a universal concept with a broad connotation. This is justifiable because the university is the most appropriate pedagogical institution to cope with the universal.

This essay is restricted to a narrower perspective of the concept of culture. It is concerned with the finer aspects of human activities, especially aesthetic and creative activities, and examines the place of culture in the total life of a university, particularly one located in this [Asia and Pacific] region.

Paradoxically, culture in this region should have a relatively larger slice of the attention and resources of the whole university than one located in a more developed region. The paradox emerges because many of those responsible for governing or administering universities in Asia and the Pacific tend to feel that culture can be relegated to a lower priority as compared to the needs for well trained graduates in such mundane fields as accounting, technology or medicine.

Universities in this corner of the world are uniquely placed to savour the largest variety of the great civilizations and religions which have interacted through space and time in one relatively small area. Where else in the world could one study the confluence of Buddhism and Taoism, together with such theistic religions as Islam and Christianity, as well as a plethora of animistic or pagan beliefs? Where else has there been such a long continuity of culture as may be claimed by the speakers of the Tamil or Chinese languages? Where else would one find such 'undisturbed' societies as in Japan or New Guinea? Apart from the depredations of European colonialism, Southeast Asia has been spared the sweeping destructions of the barbarians, or the dark ages in Europe.

The cultural role of the university

While the universities in this region may aspire to be centres for dissemination of the highest technological cultures, they should also try to be centres for rediscovering and appreciating some of the oldest humane cultures known to man. This is the setting in which the university endeavours to fulfil its twin tasks of teaching and research. We shall briefly examine the concept of culture before discussing its place in higher education. Culture is a rather ambiguous word in most languages. Indeed the Dictionary of the Social Sciences, compiled under the auspices of Unesco (1964), gives at least 16 different definitions of the term 'culture'.

Primarily, a university should be concerned with national culture while it gives reasonable consideration to other culture so as to put the national culture into the regional or global framework. Particular attention needs to be given to the cultures of significant ethnic groups who have settled in the country for several generations and who originated from contiguous areas. For example, there are concentrations of the Southeast Asian Chinese in most urban parts of the Southeast Asia and Pacific region. These people have distinct cultural patterns in their religious beliefs, rituals, ceramic artifacts, jewellery, music, language or dialect. Most of their particular forms of culture are no longer to be found in the mother country, namely, the People's Republic of China.

The university is faced with several interesting and challenging roles in this respect. Should it try to become the preserver of this culture which is no longer to be found in the home country? Should the university become actively involved in the rediscovery, documentation and dissemination of this particular culture? In short, what should the boundary be between the distribution of resources—funds, space or teaching power—amongst national culture and the original cultures of migrant ethnic groups whose original national culture may have changed to a radical extent?

For universities in the relatively small and newly developed countries of Southeast Asia and the Pacific, this can become quite a problem. This is especially true for countries where there are large urban concentrations of the Southeast Asian Chinese. The proposal to repattern the connotation of national culture so as to include elements of the cultures of minority groups can be a matter that is controversial and possibly rather sensitive. Nevertheless, a university in the region should have a fairly clear answer to such questions.

Principles. This tentative and respectful response is based on the following principles:

1. National culture is national culture.
2. All other cultures should be respected, tolerated and studied. This includes Western culture which came with the colonial forces and remains as a major influence through trade and the mass media.
3. It is more important to teach students tolerance, respect and appreciation rather than to try and synthesize a new brand of national culture out of the diversity of migratory elements.

Traditional culture. The forms of culture that have survived the test of time and often bear the sobriquet 'classical' can be described as traditional culture. It is unfortunate that certain culture forms in the developed countries are often referred to as classical, as in the case of music and dance, while in the developing countries, performances are called 'folk' or 'ethnic'. Somehow or other, the music of the Gypsies seems to have been admitted to the repertoire of classical concerns only after it had been adapted by Franz Liszt. It is possible that this author is unduly sensitive to semantic subtleties.

In this region it is the duty of the staff and students of universities to rediscover their national cultural heritage and to be conscious of differences as well as similarities between their fine arts and the fine arts of other cultures.

Modern culture and tourism. In the way of history there is a process termed, 'modernization'. Hence, there is the concept of 'modern' culture. For many developing countries, this means the wholesale importation of the most superficial aspects of contemporary or slightly earlier Western popular or cosmopolitan culture. This culture is characterized by electronic presentation in sound and vision, mass production, high pressure salesmanship, rapid turn around of fashions and indiscriminate exposure of the bizarre. Of course, every reader in a developing country should form his own judgement regarding the attractiveness or otherwise of the so-called modern culture. Nevertheless, modernization tends to flood out national culture. Some nationalists are likely to regard this with dismay. When national cultures are lost, future generations pine in futile nostalgia and begin the search for the remembrance of times that are lost.

One of the most pernicious influences in the developing countries is tourist culture. Many such countries are beguiled into the belief that the tourist industry may accomplish for them what steel, electronics and mechanized farming did for the advanced countries during the last hundred years. To attract foreign tourists, the 'natives' are encouraged to dress and perform in ways that frequently bear little relationship to the traditional cultural modes. The tempo of music is speeded up to avoid boredom among the tourists. The colours and design of costumes are rearranged to make them photogenic and the whole ensemble is given an ambience of quaintness that is thought to attract the jetlagged tourists. By some inevitable process tourist culture comes to edge out and replace traditional culture as the prime manifestation of national culture. When university students become involved in such programmes, some people develop the same protective instincts that have led to the formation of the World Wildlife Fund.

Disseminating and discovering knowledge. To discuss the place of culture in the university one must begin by delineating the kind of university functions envisaged. The business of the university is the management of knowledge. The university transfers knowledge from all its repositories which include the minds of the professors, the contents of the books and journals in the library, the specimens in the laboratories and displays in the museums to the minds of the students. This task of forming and informing the minds of young scholars who compose each new generation of learners is its most sacred and exacting duty. The university should be concerned with the dissemination of a wide spectrum of knowledge from the most ancient known relevant knowledge to the latest reports from the frontiers of discovery.

The other duty of university staff is to discover new knowledge. This is accomplished by a set of well established procedures that alternate between the utter rigorousness of scientific methodology and the life-changing discoveries that appear as flashes of intuition. In research, discipline and insight are the hallmarks of excellence.

This, rather subjective presentation seeks to explain the author's vision of the university in our corner of the world. It is completed with the brief examination of the concept of the learning process in a university. All university teachers know the direct methods of teaching. These consists of lectures, tutorials, practical classes in

laboratories, discussions and seminars. Frequently, masses of empirical information are proffered to students who dutifully record the same by ballpoint or cassette or even disc. The student's duty is conceived to be that of managing a data bank in which bits of knowledge are stored up for regurgitation at examination time. In its worst scenario, learning is limited to rote memory. While it is undeniable that a certain amount of memorization is good for the mind, in the sense that jogging is thought to be good for the body, it should not be allowed to define the boundaries of learning in our universities.

There is a need to form the character of students who are not only future citizens, but possibly some of them may become national leaders. In one sense, they are at the threshold of wisdom. Character is formed in many ways and is an elusive quality that may only mature years after completion of the formal learning process. The Unesco monthly magazine, *Courier*, says on its front cover, it is, 'A window on the world'. The university is more like a door to which the teacher leads the learner up to the threshold and does not linger too long in abstract contemplation of the lintel. It is desirable that students should adopt the voluntary approach to learning in a receptive mood.

Preservation of culture. The university can be seen as a repository of the national culture. The university may also be seen as a guardian at the ramparts of national culture. It may have to defend this culture from the more dangerous diluting and polluting influences that seem to be concomitant with socio-economic development.

Modern technology through film, and video and audio tape allows the ordinary student to have many opportunities of coming into direct contact with traditional forms of culture in perfect performance. Unfortunately, the ramparts are breached by the same modern technological artifacts which offer electronic performances so pervasive that national culture becomes submerged. The university has a task to awaken the consciousness of future leaders to the values of national culture. If this is to become vital and vigorous then it should be incorporated into the national daily life.

To expand the concept of the university as the repository of national culture, we can envisage its task as including not only abstract theoretical researches involving the formulation of hypotheses about the evolution of historical, geographical or cultural phenomena but also embracing the work of building up collections of specimens

of the national fine arts. Too often, in developing countries, universities are not given an opportunity to have museums of fine arts or ethnographic collections or museums of the history of science on their campuses.

This can best happen on a campus because universities have the ideal interdisciplinary mixture of academics interested in diverse branches of knowledge. Many have a lifelong dedication to the furtherance of knowledge in a specialized field. Furthermore, universities which have museums on their campuses may produce students who graduate to become leaders of the nation and thus bring with them an awareness as well as a love of their cultural heritage. Some students may develop a strong taste for the aesthetics of their national culture. In multi-cultural countries like Malaysia an understanding of the influence of other cultures over one's own may help to strengthen the sense of tolerance which is so essential for the formation of national unity.

Courses of study. Formal as well as informal teaching programmes of the university in the field of culture allow us to envisage the possibilities of providing a wide range of experiences to the students. Curricula that are oriented towards area studies may have courses on such subjects as ceramic exports from China to Southeast Asia during the period of the sixteenth to nineteenth century or, the *kendi** as an object of art, religion and trade in Southeast Asia. Most interesting ideas should emerge from a comparative course on Chinese and Arabic calligraphy.

Such courses could direct attention to the great cultural movements that have swept through the region during the past millenium. Modern technology provides the lecturer with opportunities to show the learners some of the finest examples from great collections all over the world. In many cases, there are excellent reproductions and facsimiles so that students may have the impression that they are examining actual original works of art. Films and video tapes are available to supplement these courses so that dance, music and theatre, can be adequately included in the courses.

Apart from opportunities to visit museums or see dramatic presentations or art exhibitions, students in the more prosaic or mundane courses such as engineering or accounting, could be offered

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* *Kendi* = a type of ceramics produced in Southeast Asia.

evening, non-credit classes in music or art appreciation or pottery making, so that they too, may develop some aesthetic capacity or realize their creative instincts.

In such a situation a university becomes a place that has more than administrative buildings, science or language laboratories and libraries. It should have theatres for large or small presentations as well as a cinema that can also project video tapes. The library may have a music room and facilities for individual viewing of video tapes. All this should be on a par with the Computer Centre or the Atomic Research Institute. To support one side and neglect the other is more than being Philistine.

A good university should foster the growth of many small student societies which can cater for a wide range of student creative interests. It may happen that through a musical society a Chinese girl can learn to play the Indonesian *gamelan*,* a northern Malay student can experience the pleasure of listening to southern style *ghazal*** music. In turn, these societies and the university itself should establish links with the world outside the campus. National symphony orchestras or ceramic societies may hold their regular meetings on the campus. Then staff and students alike would have better opportunities to enjoy such activities.

The basic ideal of the university should be to strive for excellence in all its endeavours. This can manifest itself in the cultural field through the search for perfection in performance or in the presentation of its exhibits. If the university is to fulfil its role of being more than just a machine to pump knowledge through the students' brains, then besides offering them the chance to be creative, it should also give students the opportunity of having direct experience of works of undoubted quality.

Providing the resources

If it be true that, 'culture forms character', then learning (in every sense of the word 'learning') requires a university to devote a goodly part of its total resources of space, manpower and funds to

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* *gamelan* = a type of orchestra common to Southeast Asia, consisting mainly of tuned metal or wooden chimes and other percussion instruments.

** *ghazal* = oriental lyric poetry having a limited number of verses and a recurrent rhyme.

the promotion of culture as well as cultural activities. Culture does not come cheaply. At least it should not be considered as something that can be acquired for little cost. Trustees and administrators of universities in this region tend to believe that expenditure on microscopes is more relevant than on works of art. Or that a Chair of Biotechnology may promote more national growth than a Chair of History of Fine Art. The ultimate principle is one of balance. The real 'authorities' of a university should try to steer a wise course that spreads resources between these two equally important demands.

Pragmatically, if the budget is mainly supported from public sources, then the head of the university will have to fence adroitly with bureaucrats in the Ministry of Education or even in the Treasury. Frequently, their basic attitude is that wherever possible, cultural expenditures are foibles that should be ruthlessly pruned. In other words, in higher education they view culture as a luxury rather than a necessity. Operating funds are needed for staff salaries and for routine expenditure. In addition, provision is required for the support of occasional performances or exhibitions or opportunities to make extraordinary purchases of rare works of art of national significance.

The government official who would not blink an eyelid at a proposal to spend a million or two on some guided missile, that may not function at the time of need, or that may soon become obsolete, will open his eyes and mouth widely at a suggestion to acquire a rare ceramic of great beauty or a proposal to bring back an old manuscript from Europe.

Since university heads are normally idealists with their feet firmly planted on the ground, the most effective strategy is to seek public donations for these occasional extraordinary expenditures. Nevertheless, a significant percentage of the annual budget should be devoted to cultural activities generally in the university.

The fortunate university may be endowed with funds that yield a regular income which can be accumulated for the acquisition of expensive works of art. The better universities in the developed countries have greatly benefited in this way. Some charitable persons may donate items to university museums or libraries or remember the university in their wills. Infrequently, the Ministry of Culture or of Information may co-operate with the university to sponsor performances that are significant but not likely to be profitable.

It may be reasonable to expect the university to play a major role in the total national apparatus for the achievement of rapid development and it may be true that since university education is expensive, the university should be concerned to optimize the production of graduates who can assist in the furtherance of development. Nevertheless, if the element of culture is missing from the campus as well as the curriculum, then we are in danger of producing graduates who lack character.

Morality is strengthened by the capacity to appreciate culture. Most of the strong nations in the world today propagate the appreciation of culture in general and their national culture in particular in their leading universities. In this region the university should be conceived in the same light. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

ADVANCEMENT OF SCIENCE, TECHNOLOGY AND HIGHER EDUCATION IN THE DEVELOPING COUNTRIES

by Wu Mingyu and Hu Ping

A historical challenge

Our contemporary world seems filled with deep troubles and severe crises. The crisis of education is just one among the many. The rapid advancement of science and technology, the emergence of a series of new industries and the explosion of man's knowledge about this world has not only enabled him to change the world dramatically, but also urged him to renew his knowledge constantly as the cycle of the application of knowledge shortens. Mankind has, over the past 20 years, accumulated more knowledge than his ancestors had for the previous thousands of years. What all this means to us is that we in this age have to acquire far more knowledge and master far more technology within a far shorter time than our parents and grandparents. We are experiencing changes and transformations never previously witnessed in human history.

Naturally, traditional methodology in education cannot meet the challenge posed by the rapid progress of our time. The development of science and technology is, on the one hand, the consequence of modern education, while on the other, it has become a determining factor in the promotion and restructuring of education for the future. The irony is that while we all know that education in today's world is more important than ever and the need for education is more urgent than ever, the educational systems in most countries are experiencing the effects of malfunctioning. Even the world's 'top-notch' institutes of higher learning are unable to cope with the requirements of the contemporary world.

Over the past 20 years, while stepping up their efforts to promote their national economy, many developing countries have emphasized the importance of science and technology and correspondingly adjusted the role of education and training. During the

1970s, the number of scientists and engineers in the developing countries in Asia and the Pacific has been increasing at an annual rate of 6 per cent. Nevertheless education and training are still the fatal shortfalls in their development strategies. The lack of personnel remains the biggest obstacle in the development of science and technology and the economy in those countries. Among the many gaps between the developed and developing countries, the most crucial and fundamental one is the development of intellectual resources, education and training. It is not only a gap in terms of quantity, more importantly, it is a gap in such aspects as the educational system, structure and educational quality. For most developing countries, a vital determinant for the advancement of science and technology and the national economy is that priority be given to the development of intellectual resources and the upbringing of a large number of high quality scientists and engineers who will meet the socio-economic development needs of their countries.

The value of intellectual resources development

A big obstacle to overcome in the development of education for most developing countries is the negative impact of their economic, cultural and social traditions. Historically speaking most developing countries have a backward agricultural background, without having experienced the national economic and social reformations such as the industrial revolution in the West. Most of their people, including some decision-makers do not understand the essence of the significance and role of scientific and technological and cultural and educational development.

While marvelling at the 'economic miracle' in the Western industrialized states, they mainly observe its dazzling surface, but fail to see the tremendous investment behind the process of industrialization; education, training, management and efficiency. While more and more people are coming to realize the importance of promoting economic development through science and technology, they are still neglecting the fact that education must come before science and technology can advance; and this has cost them dearly. After political independence, these countries, big or small, feel the urgent need to overcome their economic backwardness. This is reasonable and justifiable. Yet the means they adopt to reach such an end may not be rational and correct. They are willing to spend huge amounts of foreign currency to buy the most advanced technology and

equipment to produce 'instant results' but are reluctant to spend money on their own education and training which, although it will give its full play only in the future, is more important in the long-run.

With most developing countries, the budget for education has been low and remains low proportionally in the total national budget. These countries seem to think that they can purchase industrialization from developed countries. Such emphasis on material construction and negligence of the intellectual resource development has resulted in strategic mistakes and great loss. There is huge economic construction investment with low economic efficiency and small returns. The lack of scientific, technological and management personnel has in many cases caused high cost, excessive consumption, low quality, low economic efficiency and mismanagement. The machines that turn out products magically and effectively in the developed countries simply become a dump of heavy iron and steel unmanageable in the developing countries.

Experience is the best teacher. Through experience we can learn from our own mistakes. Paying attention to economic development is not equal to emphasizing the importance of science and technology, and emphasizing the importance of science and technology is not equal to stressing the need for education and training. Adequate emphasis must be given to the role of education and training. Science and technology does not come from the never-never land. Without the appropriate education and training there would be no first rate scientists or technicians, no indigenous scientific and technological capabilities, progress or innovations and no adaptation and assimilation of foreign advanced technology. Modernization does not come from importing or transplanting, but grows out of one's own soil which is, first of all, the development of intellectual resources, education and training and the promotion of the cultural and scientific and technological development of the nation. The development of intellectual resources should receive top investment priority in the developing countries. The essence of such development is the development of the human beings themselves, without which the development of science and technology, of social economy, the promotion of production and the improvement of living quality would not be possible.

Education and rapid change

The development of higher education undoubtedly plays a decisive role in the development of science and technology. But this presupposes that the system and structure of such higher education are rational and of high quality. It is in just these areas that the developing countries must make their utmost efforts to improve. Higher education in developing countries has been patterned on the models of the industrialized countries. This includes the system, structure, curriculum and teaching materials. Although the developing countries have gained a lot in this respect, they have found that simple imitation of educational modality in the industrialized countries by no means solves their own problems. Education serves national socio-economic development, therefore the curriculum and the content of education should be in accord with national development needs and in keeping with national characteristics. If education is to play a vital role, it must conform to reflect the ever changing structures of the economy, technology and employment, so as to become an integral part of the all-round development. Otherwise educational outcomes will be divorced from the social and economic needs of the country; something which occurs when blind imitation of educational modality and curriculum takes place. This imitation could also lead to a brain drain to the developed countries.

In a static or slow-progressing society, the typical form of education is to inform the students of the past and teach them to master existing technology, for in such a society, the need for knowledge and technology remains the same both for now and the future. Yet in our time, everything is changing so rapidly that people have to devote more of their efforts to inquiring into the future. The focus of education, higher education in particular, must shift from understanding the past to understanding the present and from the present, the future. Education aims at the future needs and therefore cannot take as its primary task the teaching of the 'complete set of knowledge'.

Today, science and technology are advancing by leaps and bounds; they keep integrating with each other and splitting into new divisions while constantly interpenetrating each other. New disciplines are always emerging and knowledge is perpetually becoming outdated and renewed. Any attempt to teach a complete set of knowledge would be impracticable. Higher education should be

considered to be only part of the educational process, or rather only the starting point of it. Its main task is to increase the students' basic knowledge, improve their analytical and comprehensive capabilities and to promote the generality and adaptivity of their skills. In future society, the process of material production will be controlled by machines and computers, while man will carry out the processing of knowledge and information and those tasks that require human intelligence and creativity. The task of contemporary higher education is to make the students adaptive to the ever-changing new environment. The illiterates of the future will not be those who cannot read, but those who are at a loss to cope with new situations.

Diversity of forms of higher education in the developing countries

It seems that at present the educational modalities in many countries are cast from the same mould; there is a complete set of knowledge to be learnt by students registered in the same class with a set of standard curriculum and teaching materials. The students go on and off class according to the bell and either pass or fail depending on a stereotyped marking system. On the one hand, such uniform or mass-production-like education has produced a large number of intellectuals, yet on the other, the growth of an equally large number of potential talents has been delayed.

Contemporary higher education has played an eminent role in human civilization, has contributed greatly to the progress of human society, and the acquisition and dissemination of knowledge. Yet once it emerged, it settled down, sticking to its old form, unable to keep up with progress. What characterizes higher education in most developing countries is full-day schooling, boarding schools and long school terms. Such educational systems need long cycles, are high cost, have low efficiency and are detrimental to the development and extension of higher education. It is for just these reasons that the development of higher education in most developing countries is so slow and huge numbers of young people cannot find their way to institutes of higher learning.

Modern science and technology have radically changed the traditional educational practices, methods, means and pedagogy. In the old days, one university teacher tutored ten students and needed 100 square metres of campus. Today, with computer aids, electronic video recording, holograms and satellite technology, education has

entered into a new phase. Students no longer need standard classrooms, and institutes no longer need large campuses. Through the use of satellite, video recording or closed circuit television, one lecture can be viewed by thousands of students. Such forms of education acquire special and irreplaceable significance for the developing countries in their vast rural and remote areas. The unlimited expansion of education in terms of time and space has become economically more efficient.

Meanwhile, there also exist many other forms of widely spread and effective practices of education, such as university on television or radio, university by correspondence, open college, evening college and vocational colleges, that can complement traditional forms of institutes of higher learning. All these should be further promoted and perfected to make greater contributions to the upbringing of a new generation of intellectuals. They should also be endorsed and recognized by both the government and the people, and their curriculum and teaching materials be regulated through the adoption of certain measures.

Needless to say, such diverse forms of education, compared with the traditional forms of education, have their shortfalls, e.g., the lack of individual tutoring, questioning and answering; and the lack of necessary lab equipment and group discussions, being some. However, they can be perfected through various means. Moreover, they have their unique merits; the variety of forms, the flexibility of teaching methods, the absence of restraints of age, the registration of class, and so on, which are all lacking in the traditional institutes of higher learning. With these types of institutes, there would be no need for standardization and each could supplement the other, taking different means to meet different ends. For example, the study length in and the curriculum of such institutes could be flexible to allow for people at different levels of attainment; there could be lectures, group tutoring or workshops. As long as they satisfy the needs of the people in their studies and future employment, and promote economic, scientific and technological and cultural development, their existence is justifiable and valuable. □

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

ASIAN HIGHER EDUCATION IN TRANSITION

by S. Gopinathan

Introduction

In order to discuss the roles that higher education systems will play in Asia and the Pacific during the remainder of this century one needs to be able to anticipate with some measure of accuracy the socio-political contexts that may be expected to prevail. This is extremely difficult as societies evolve in unpredictable ways. Nevertheless common patterns are discernable, and the concerns and emerging issues are clear enough. So is the determination of all these countries to use education to serve development even if their educational histories, and structures are so vastly different.

The numbers demanding access to higher education in Asia are expected to continue to be a major factor in shaping future structures and roles. Despite many successful family planning programmes in Asia, rates of population increase continue to be high. In terms of United States dollars (1981 figures) per capita income ranges from US $8,887 in Japan to US $120 in Bangladesh and prospects for rapid economic transformation are not promising. A 1977 ESCAP* document indicates that no innovative revolutions in the agricultural sector equal to the green revolution seem likely to occur to fuel the momentum of agricultural expansion achieved in the 1960s. More than mere expansion, output must be accelerated to raise rural incomes and nutritional standards and break the constraints in continued growth in other sectors. The current recession in industrialized countries and sharp declines in commodity prices underline the difficult problems faced by the least developed countries in Asia and the Pacific.

Expansion of higher education

Yet, even within such constraints, educational development in the region in the last decade and a half has been undoubtedly impressive. Enrolment expansion when measured in relative terms

* Economic and Social Commission for Asia and the Pacific.

was faster at the second and third than at the first levels, although there were wide country variations. A variety of factors have contributed to this pressure. Increased improvements in living standards and a greater understanding of health-related factors have led to a reduction in mortality; in addition the increase in the relevant age groups and the fact that this is a relatively better educated segment is one set of factors. A second set of factors is economic. Increased urbanization and the growth of new industries has created a demand for a varied reservoir of skills. Further, a demand from government for persons trained in science has enhanced the value of trained personnel and it is felt that higher education should have a major role in providing this. Finally, there is the political dimension. The desire for a greater democratization of society including greater power sharing and public participation in decision making has led to a concomitant belief in the value of an educated citizenry. Add to this the opening up of access to linguistic and ethnic minorities and to women and one can begin to appreciate the pressures that are building up.

The table on the following page shows the vast extremes in growth rates at the third level. The multiplier effect was 5.12 for Iran but only 1.04 for Sri Lanka. Nevertheless, 8 out of 17 countries had multipliers of more than 2. In 10 of the 17 countries the growth in the potential pool for post-secondary entrants has doubled. Public expenditure per inhabitant and per pupil show a general increase in almost all countries though inflation masks the degree of real increase. A general belief that economic development needed a ready pool of technically skilled manpower has led to considerable investment in vocational and technical educational institutions, polytechnics and a variety of apprenticeship and other forms of work related programmes.

Increasing demand for places

As indicated earlier, one consequence of growth in the education system has been the pressure for even more places in higher education.

Many examples may be cited to indicate the innovative ways in which such demands are being met. In India and Malaysia legislative powers have been used to ensure places in higher education institutions for scheduled castes and tribes and for Malays respectively. In Indonesia and the Philippines the strategy has been to attempt

Growth of enrolment by level of education by country (multiplier 1965-1970, 1970-1975 and 1965-1975)

Country	First Level			Second Level			Third Level		
	1965-70	1970-75	1965-75	1965-70	1970-75	1965-75	1965-70	1970-75	1965-75
Developing countries*									
Afghanistan	1.59	1.30	2.07	2.28	1.76	4.00	2.24	1.59	3.55
Bangladesh	1.46	1.31	1.91	1.70	1.50	2.55	3.18	1.53	4.86
Burma	1.41	1.08	1.53	1.86	1.17	2.18	1.77	1.22	2.15
India	1.17	1.13	1.32	1.26	1.14	1.43	1.40	1.18	1.55
Indonesia	1.27	1.23	1.56	1.69	1.37	2.31	1.77	1.12	1.99
Iran	1.33	1.31	1.74	1.83	2.07	3.79	2.52	2.03	5.12
Lao PDR	1.52	...	...	2.18	...	...	2.63	...	...
Malaysia		1.12	1.30	1.52	1.54	2.35	1.35	2.17	2.93
Mongolia	1.40	1.17	1.64	1.59	1.49	2.37	0.86	1.43	1.23
Nepal	1.35	1.38	1.85	1.34	1.44	1.93	1.64	1.04	1.71
Pakistan	1.27	1.33	1.68	1.39	1.39	1.93	2.19	1.32	2.89
Papua New Guinea	1.04	0.99	1.02	2.20	1.61	3.55	...	6.00	...
Philippines	1.20	1.10	1.31	1.45	1.31	1.91	1.23	1.17	1.45
Republic of Korea	1.16	0.97	1.13	1.61	1.64	2.64	1.42	1.48	2.10
Singapore	1.02	0.90	0.92	1.30	1.22	1.58	1.00	1.64	1.64
Sri Lanka	0.96	0.87	0.84	1.23	1.08	1.33	0.86	1.22	1.04
Thailand	1.22	1.19	1.44	1.67	1.66	2.78	1.52	1.41	2.15
Developed countries									
Australia	1.09	1.01	1.10	1.24	1.15	1.42	1.36	1.53	2.09
Japan	0.97	1.08	1.04	0.82	1.01	0.83	1.54	1.24	1.90
New Zealand	1.09	0.98	1.07	1.14	1.17	1.33	1.56	1.58	2.47
USSR	1.05	0.89	0.94	1.07	1.17	1.26	1.19	1.06	1.26

* Not including Democratic Kampuchea

Source: Fourth Regional Conference of Ministers of Education and Those Responsible for Economic Planning in Asia and Oceania, Colombo, 24 July - 1 August 1978. *Development of education in Asia and Oceania: statistical trends and projections 1965-1985.* (Paris, Unesco, 1978) p. 12 (ED-78 MINEDASO/REF 2)

regionalization of institutions to ensure better rural sector participation. In some Islamic countries some institutions enrol women exclusively to ensure that religious objections are overcome.

Among the steps being taken to ensure continued democratization of access, two may be mentioned. It is accepted that the link between favoured socio-economic status and participation in tertiary institutions is so well established that a lack of financial support prevents many deserving students from accepting places and staying on till graduation. With government aid already stretched, it seems important to encourage commercial, industrial and philanthropic organizations to provide more support. A second and related strategy has to do with ensuring that the wider pool of students is better prepared for the demands of academic life. While tertiary institutions can be expected to provide some remedial instruction, especially in language, a long term strategy must be to improve the quality of secondary education with a better distribution of quality institutions, the provision of live-in facilities, a better supply of teachers and instructional materials. If such moves can be combined with a more flexible use of examination grades for entry, greater democratization of access may be realized both in theory and practice.

Challenges facing higher education

Flexible response to national needs. If higher education is to be able to meet the challenges of the next two decades it must show cognizance of the fact that a future-oriented economy, a more varied social class and skill background among students, and more flexible responses to national needs are factors to contend with. Higher education institutions, especially universities, are commonly assumed to be able to do their job best if left with relative autonomy and a homogenous student body; that their generally tradition bound attitudes have not hindered their involvement in national affairs is seen in the record of tertiary level students in nationalist movements in India and Indonesia. Yet it is also true that a general reluctance to involve themselves too closely with government planning has led to the emergence of specialized research centres outside the universities as is the case in India and Japan; the International Rice Research Institute in the Philippines, the Malaysian Rubber Research Institute in Malaysia, and the Nagoya Institute of Plasma Physics in Japan are

important examples of such institutions. Whatever the specific factors behind the development of such institutions, it is clear that they are here to stay and that universities must learn to live with shared research responsibility. What they need to avoid most importantly is a denial of significant and basic research responsibilities and to resist urges to concentrate primarily on teaching.

Innovation. An equally fundamental challenge—the creation of diversified institutions to prepare students for a variety of skills—is being met with less trauma. There is an emerging network of institutions which are co-operating to enable a comprehensive higher education system to develop. Japan is acting on a recommendation to allow students who complete a short cycle course to transfer to a four-year programme. Thailand and the Philippines have programmes which award associate degrees for two-year vocationally oriented programmes; in Thailand it is an intermediate degree while in the Philippines it is a terminal degree. In Singapore, outstanding technician diploma holders can now proceed to the National University of Singapore to study in relevant degree courses. Perhaps the most interesting development is the increasing adoption of the Open University concept. The Ramkhamhaeng University of Thailand was established in 1971 and enrolled more than 100,000 students in 1979. It is too early to judge how well some innovations in higher education have worked; enrolment figures will be quite different from completion figures. Nevertheless the experiments will bear watching.

One of the mechanisms that may facilitate the evolution of a unified higher education system is greater use of the possibilities of the transfer system. Such a system promotes better integration because it compels participating institutions to accept some measure of supervision as a condition of having some of their programmes recognized. Among students and the general public there would also be greater acceptance of these institutions since the possibility for transfer to second tier institutions exists.

Management efficiency. In hand with changes at the structural level are changes at the organizational level. The newer responsibilities will demand more effective management; further, the issue of costs and greater responsiveness to governmental needs will in the years to come bring the government into even closer involvement with higher education. It is not often enough recognized that universities in particular are both large-scale and complex institutions. The

statistics for the University of the Philippines (UP) underline this complexity; UP is a multicampus university with at least four branch campusses, more than 20,000 students, more than 60 colleges, institutes and centres, more than 3,000 faculty including some 300 part-time staff, more than 750 academic non-teaching staff and more than 3,000 administrative personnel. Yet at the same time universities are also academic institutions, rooted in particular traditions, and processing a shared consciousness.

Various factors need to be borne in mind in determining the most appropriate type of administrative structure for particular institutions; the level and type of decision to be taken (individual, group or institution) and the characteristics of these groups in the light of their roles, sizes and expertise. Consideration of the type of decision needs to go hand in hand with the style of decision making and implementation. It would seem that change in systems of higher education is best achieved in an evolutionary rather than revolutionary manner.

University autonomy. The challenge for the next two decades lies as well in the way in which institutions of higher education order their relations with the government. It is clear that the role of a powerful central authority on such matters as resource allocation, enrolment ratios in various faculties and general development planning has increased and the institutional autonomy of institutions has declined. Nevertheless, as the Carnegie Commission noted, a case can be made for independence in three areas—intellectual (freedom of study and research), academic (control of specific academic questions such as design of courses, examinations) and administrative (detailed financial and personnel matters). It is difficult to generalize on the state of university-government relationships on a regional basis. But the clear need for accommodation cannot be denied. There must be an acceptance on both sides that the goals they seek are common and that confrontation is bound to be detrimental to national priorities. It is necessary for political power to be the more tempered since it holds coercive power and the power of the purse. If an administration is either used or required to police the campus on behalf of the government then the extent it is so used may be the limit of its power to persuade faculty and students.

A positive feature of government involvement is the recognition on the government's part for the need of more systematic oversight

and expertise. In Indonesia this has led to the creation of the Board for Private or Civic Institutions of Higher Learning and a Board of Advisors for Higher Education. Yet other countries have utilized the mechanisms of the University Grants Commission to allow higher education institutions a measure of autonomy and flexibility while at the same time ensuring that national priorities are given careful consideration. These and other devices will be more extensively used as greater collaboration takes place between government and higher education.

Curriculum. It is perhaps in the area of curriculum that the most visible signs of change are apparent. Higher education systems, and universities in particular, have become aware of the need to respond with more imaginative curricula and instructional methodologies to cater to a more diversified clientele and more varied functions. In particular there has been, and will continue to be, more concern with the quality of science curriculum and continued investment in scientific and technological institutions; there is also evidence that a larger percentage of university enrolments will be directed towards engineering, agriculture and similar disciplines. There has also been a proliferation of second-rank institutions such as technical and vocational colleges and an expansion of enrolment in them. Such policies however need to be continuously monitored to ensure that the mix between liberal arts humanities and technically oriented graduates is appropriate, given the specific characteristics of each nation's economy, stage of growth and prospects for growth.

The questions of relevance may also be approached from another direction. If higher education institutions are to play a positive role in the development of their societies, what should form the basis of instruction in, say, the social sciences in the universities? Underlying this concern is the clear evidence that many institutions depend on syllabuses, textbooks and external examiners from the West. In many instances sabbatical leave, joint research activity, the teaching and research agendas are also Western-oriented. But there is clear recognition now, spurred by evidence of the inadequacy of many Western social science concepts to fully grasp and explain Asian social reality, that an indigenous social science tradition should be encouraged. An acceptance of such a perspective will mean far-reaching changes in the teaching and research orientations of Asian tertiary institutions.

Yet another major issue that has implications for curricula and instructional effectiveness is the choice of languages at tertiary institutions. Many Asian countries have moved to give greater prominence to national languages in teaching, research and in other areas of scholarly endeavour. However, such moves have predictably been complicated by the lack of trained teachers capable of using the language, lack of library and teaching materials and the need to continue to use an international language for some scholarly functions. The dilemma is a serious one and the Asian higher education system may be expected to continue to grapple with the problem. In countries like Indonesia, Japan, and Thailand, the goal is to see that adequate standards in English are maintained while Malaysia is now concerned with the development of its National language, *Bahasa Malaysia* and ensuring a full range of uses for it in higher education. India is moving slowly towards the realization of a policy that involves the use of regional languages in higher education. The Philippines is at the moment coping with increased pressures for more extensive use of *Tagalog*.

The final aspect of curriculum requiring serious consideration is that of evaluation. Having agreed to expand enrolment to accommodate students with a wider range of ability, higher education institutions generally continue to be rigid and conservative in their evaluation procedures. In many institutions, graduation still depends on performance in the final examination and the final examination is very often a massive test of memory and the ability to respond to problems under pressure. Although many innovations exist—open-book examinations, the inclusion of project work, oral examinations, take home examinations—they have not yet found their rightful place in the post-secondary institutions of the region. Until much more serious thought is given to reforming examinations, the value of much curriculum reform will remain unrealized.

Quality of higher education. The quality of the higher education enterprise must ultimately depend on faculty and students. It is the academic staff that has the major control over the teaching and research programmes central to the university; they have the closest connections with students and make the greatest impact on them. Finally they remain on campus and give continuity to the institution. It was noted earlier that there have been fundamental changes in the backgrounds and expectations of students. Institutional stresses,

high expectations not often realized (to name only two), continue to make the student body a volatile factor. The challenge will be to ensure a committed and competent faculty and students, both skilled and attitudinally primed to contribute to national development.

In general, the expansion of Asian higher education has occurred without a commensurate growth in teaching staff, so in order to cope, both underqualified and undertrained staff have had to be recruited. The lack of adequate resources in some countries has led to overcrowded classrooms and poorly equipped laboratories and libraries. Such poor conditions have significant effects on faculty morale; poor income and status has forced academics to take more than one job as a means of supplementing income. One response has been faculty unionism but such a move has not always been welcomed by administrators. Also, unionism is not always an answer, for unions can be used as a regulatory and control mechanism without substantially improving conditions of service.

These are large and complex issues but in the area of upgrading faculty competence there has been some progress. Administrators and academics have recognized the need to upgrade skills and knowledge and sabbatical leave schemes continue to play an important part. These need to be further improved and more tightly evaluated. There is much more that can be done regionally to promote sharing of experiences by way of staff attachments in regional institutions. Organizations like Unesco and the Regional Institute for Higher Education and Development (RIHED) can arrange training programmes on a regional basis. The demand for greater awareness of local realities and the need to build up indigenous teaching and research traditions may be better and sooner realized by such sharing.

Student participation in governance. One issue expected to surface is the thorny one of student rights. It is argued by some that the notion of collegiality implies that students must be treated as partners in an academic setting. The demand is for shared governance at suitable levels and a demand for dialogue and prior consultation. Opponents of this view, point to dangers inherent in blurring faculty/student distinctions and that no continuity is possible with students changing every few years. Asian institutions have responded in a variety of ways. More positively, student desire to share and participate has taken new directions. In Burma, university students have

taken part in voluntary rural literacy campaigns paying their own expenses. In Thailand the National Student Centre of Thailand organized a 'Back to the Country' programme involving 2,500 students. In Malaysia the University of Malaysia Students Union launched a scheme of activities to teach rural children and adults to read and to provide instruction in modern farming methods, village co-operatives, health and domestic science.

Conclusion

It is clear that higher education will play a major role in the transition of Asian communities from developing to developed status. It is a role they will play individually and collectively; already bodies like Unesco, RIHED and the Association of Southeast Asian Institutions of Higher Learning (ASAIHL) are beginning to shape the new era of regional co-operation that will enable both a pooling of resources and a sharing of experiences. Many problems nevertheless remain: the more efficient management of large and increasingly complex systems of higher education; steps to relate curricula and teaching more meaningfully to social realities and priorities; and a need for a greater democratization both of access and governance are a few examples. If higher education systems can be enabled to reach their full potential the development of Asian societies will be that much closer to realization. □

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Bulletin of the Unesco Regional Office for Education in Asia and the Pacific
Number 24, April 1983

CHANGES IN UNIVERSITIES OF THE EUROPEAN TRADITION

by David C.B. Teather

Introduction

> The systems of higher learning as they are to be found in the [Asian and Pacific] region are largely patterned on the Western models. By and large, the administrative structure, the organization of curricula, instructional methods and materials and the standards used to judge performance continue in most cases to be extensively influenced by these models.[1]

Current educational systems are legacies from the past. Forces that have moulded indigenous educational systems are rooted in the histories of their societies, and current structures may not always relate well to current needs. In borrowing from models of higher education developed elsewhere, it is important that we who borrow examine to what extent and in what particulars such models are relevant to our needs. Such an examination is aided by an understanding of how the systems which serve as models have themselves developed. This article describes and interprets recent changes in universities in the European tradition.

The expansion of higher education

The outstanding feature of systems of higher education in recent times has been their growth. Since the institutionalization of learning which marked the birth of the first European universities, in Paris and Bologna around the year 1200,[2] periods of university expansion

1. Unesco Programme Development Meeting on Regional Co-operative Programme in Higher Education in Asia and the Pacific, Singapore, 27 July – 1 August 1981. *Regional co-operative programme in higher education for development: report.* Bangkok, Unesco, 1981. 50 p.

2. Piltz, Anders. *The world of medieval learning.* Oxford, Basil Blackwell, 1981. x, 299 p.

have alternated with periods of stagnation and, in some instances, of decline. Edwards and Roberts[3] have recently gathered data on student numbers in higher education from 1800 to the present day in six European countries: Belgium, Britain, France, Germany, the Netherlands and Italy. They have demonstrated that from about 1860 to 1955 the numbers of students enrolled in full-time higher education in these countries expanded in a remarkably uniform exponential fashion (see Figure 1 on the following page).[4] During this period student numbers doubled, on average, every 24 years. (This exponential expansion was interrupted only by the two Great Wars, 1914–1918 and 1939–1945, with corresponding immediate post-war surge and ebb and to a lesser extent by the Great Depression of the 1930s).

In 1956, however, there was a sharp discontinuity; a new exponential trend emerged. From 1956 to 1970 the rate of increase quickened, and student numbers increased three-fold during this 15-year period. Since 1970 the rate of increase has fallen, rather more so in Britain than in the five countries of continental Europe.

The rapid rise in numbers between 1956 and 1970 was a curiously international phenomenon. It occurred in European countries, in countries such as Australia and New Zealand with higher education systems modelled closely on those of Europe, and also in North America. Although it may not be possible to explain fully the reasons for the sudden increase to the new exponential rate which took place in the mid-1950s, and the reasons for the deviations from that rate after 1970, a greater understanding of these phenomena has important lessons for the future planning of higher education in many countries.

Some expectations of expansion

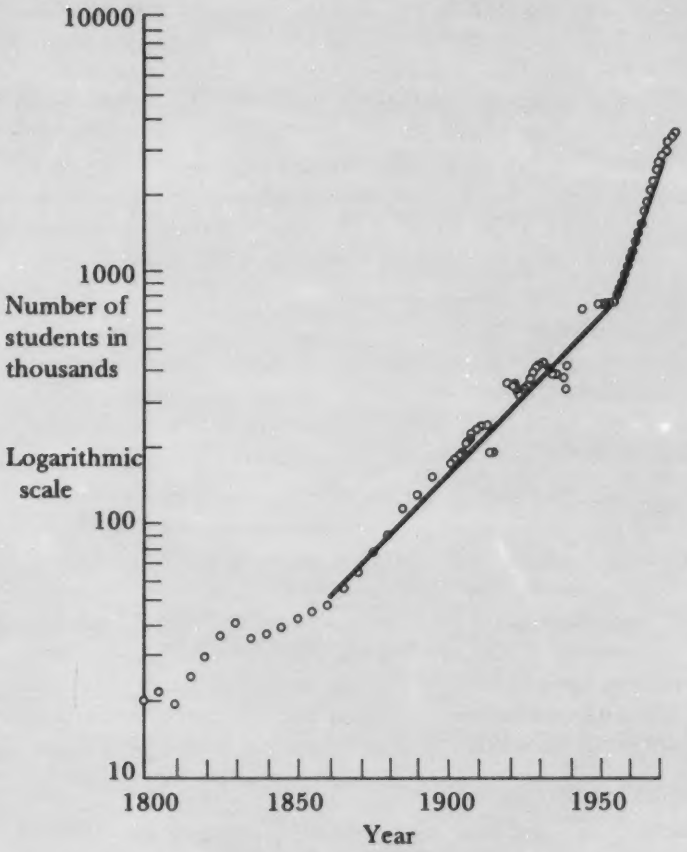
The sudden increase to a new exponential rate of growth was not planned so much as rationalized after the event. The major

3. Edwards, E.G. and I.J. Roberts. "British higher education: long-term trends in student enrolment," *Higher Education Review* (Croyden) 12(2):7–43, Spring 1980.

Edwards, E.G. "An analytical view of trends in student enrolments in Western Europe," *Higher Education in Europe* (Bucharest, Unesco/Cepes):44–60, July–September 1981.

4. Edwards, E.G., and I.J. Roberts. "Significance and limitations of the Robbins principle," in Billing, David (ed.). *Indicators of performance*. Guildford, Society for Research into Higher Education, 1980. p. 9–16, 195 p.

Figure 1. Aggregate enrolment in higher education in Belgium, Britain, France, Germany, the Netherlands and Italy, 1800–1976



reports to governments of the period, such as the Parry Report[5] in New Zealand and the Robbins Report[6] in Britain, which were widely considered to have initiated the process, in fact appeared some years

5. Parry, Sir, D.H. (chairman). *Report of the Committee on New Zealand Universities to the Minister of Education.* Wellington, Government Printer, 1959. 130 p.

6. Robbins, Lord. (chairman). *Higher education: report of the Committee appointed by the Prime Minister.* London, Her Majesty's Stationery Office, 1963. Cmd 2154. 336 p., appendices.

after it had started. They did, however, give governments clear and cogent reasons for supporting the expansion. Thus, in most countries the resources of the universities, in staff, buildings and equipment, at least kept pace with the expansion of student numbers.

Two main principles were given for this expansion. One related to the rights of, and the benefits which accrued to, the individual; the other to the economic and social well-being of the community. The first principle was that all who attained the required academic standard for entry to higher education and who wished to undertake it should be enabled to do so. This was taken to imply both financial support for institutions (to provide places) and financial support for students (to cover tuition and personal living costs). It was hoped that such provision would enable individuals to advance educationally on merit, thus ensuring greater social mobility. The second principle was that the higher education system should provide trained and certified manpower in sufficient quantity to satisfy the requirements for rapid economic and social advance in societies in which high level knowledge and skills were becoming increasingly important. These principles were adopted at a time characterized by rapid and sustained economic growth and faith in the promise of a technological revolution.

Some outcomes of expansion

Has the rapid expansion of higher education yielded the results expected of it? Firstly, let us consider the expectations of individuals. Although it would be improper to ascribe causal relationships to mere correlations, there is ample evidence that participation in higher education has been associated with considerable benefits to individuals. For example, a 20-year follow-up of the careers of almost a total cohort of students first enrolling at universities in New Zealand in 1955 revealed, in 1975, that most were very highly paid and in employment which they found personally satisfying.[7] However, by the end of the period of rapid expansion, the possession of a degree no longer guaranteed access to occupations for which it had been sufficient a few years before. To use Dore's term, 'qualification inflation' had set in.[8]

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7. Livingstone, Ian D. *Twenty years on: students of 1955 in mid-career.* Wellington, New Zealand Council for Education Research, 1980. 40 p.

8. Dore, Ronald. *The diploma disease: education, qualification and development.* London, George Allen and Unwin, 1976. xvi, 214 p.

The degree to which the rapid expansion of higher education contributed to social mobility may well have fallen short of expectations. In Britain and North America, education has gained in importance as an avenue for social advancement relative to other mechanisms, such as bureaucratic promotion, the accumulation of capital, or nepotism. But many of those who have advanced in recent years via education may be from the same sector of society as those who, prior to the period of rapid expansion, advanced by other means. This issue is complicated because important changes have occurred in occupational structures, and the relationship between social mobility and occupational structure is itself complex. Differences between the occupational structures of different societies have to be considered in any attempt to extrapolate trends from European countries to those of Asia and the Pacific; but since the broadening of access to higher education is among the contemporary aims of a number of Asian and Pacific countries, it is relevant to explore why a threefold increase in student numbers in European countries failed in this regard.

Edwards and Roberts[9] suggest that the decision of an individual to enter higher education depends on two factors:

1. A confidence factor (C), corresponding to a perception of the likelihood of success in achieving entrance to higher education, should the individual desire entrance; and
2. A relative valuation factor (V), corresponding to a perception of the value to the individual of achieving entrance to higher education compared with the perception of the value of alternative courses of action.

For most of the population, in the six European countries cited by Edwards and Roberts, C is very low; entry to higher education is not among the life options considered. Among the offspring of the professional and managerial classes of these countries however, C is high.

The abrupt increase in the rate of growth in student numbers which occurred in 1956 is ascribed to a rise in V among that part of the population already confident of achieving success in higher education. In Britain, for example, the participation rate in all forms of full-time higher education of the 18-year-old sons whose fathers were of social class I (i.e. professional and managerial) rose from about 40

9. Edwards, E.G. and I.J. Roberts. *Op. cit.* 1980. p. 7–43.

per cent in the 1950s to about 80 per cent in the 1970s.[10] Such an interpretation of the sudden increase in the rate of growth in student numbers in the mid-1950s is also consistent with the departure from the trend of the previous 15 years which occurred in 1970, since by that year the participation rate of the sons of social class I was approaching saturation. This interpretation implies that, if broadening of access to higher education is desired, the perceptions of higher education of those for whom access is desired are critical.

What of the economic returns to society of its investment in higher education? It is now clear that the relationship between higher education and economic advance during the period of rapid growth was less direct than many had assumed. In free market or mixed economies, accurate forecasting of higher manpower needs is difficult. Even in professions as seemingly susceptible to prediction as school-teaching and medicine, there have been spectacular examples of miscalculation. Changing social patterns, for example, the return of married women to the work-force, and changes in the balance between immigration and emigration, have played havoc with predictions. And the long lead times necessarily associated with courses of training of several years' duration preclude the rapid adjustment of numbers to changing economic and social circumstances.

While an adequate supply of higher level manpower is a prerequisite for economic and social development, it is not the only requirement. For example, there has to be a willingness in industry, commerce and government service to innovate and to diffuse innovations; there has to be a willingness for governments and others to provide support for new ventures. At the very least, for graduates to contribute to the work-force they have first to be employed!

The nature of the manpower is also important; there has to be a match between the knowledge, skills and attitudes of the graduates and the requirements of the jobs they are to fill. Universities come nearest to preparing their students explicitly for their future occupations in the professional faculties, such as law, medicine and engineering. But some time spent learning on the job is also necessary before graduates are admitted to full professional status. Many students in higher education are not, however, undertaking training related to a

10. By contrast, the participation rate in all forms of full-time higher education of the 18-year-old daughters whose fathers were of social class V (i.e. unskilled workers) was 1 per cent in 1976.

specific occupation. It is expected that such students, in acquiring for example a B.A. or B.Sc. degree, will also acquire knowledge, skills and attitudes at a level of generality which will prepare them to enter and to succeed in a number of possible occupations.

Questions of relevance: teaching and research

Towards the end of the period of rapid expansion, serious doubts were being expressed about the 'relevance' of much that was taught in higher education.[11] That many graduates were succeeding in their chosen careers was no answer to the critics, for they claimed that, to a greater or lesser extent, higher education was functioning merely as an agent of social selection—giving graduates advantages over their non-graduate contemporaries which were not necessarily related to their actual ability to do the job. Criticism was directed at, among other things, the highly specialized nature of what was taught, the overcrowding of syllabi associated with the knowledge explosion, and the emphasis on factual recall in examinations at the expense of skills which could be transferred to new situations. Although other factors were also important, these doubts about relevance contributed to the student unrest of 1968 which in turn shook public confidence in the institutions and raised questions about accountability regarding use of public funds.

To interpret these events it is helpful to refer back to the period of sustained exponential growth of European universities which began in the 1860s. Throughout this period the expansion was in response to increased demand for student places, but another process was also at work. During the nineteenth century European universities were increasingly influenced by the ideals and practices of scientific research and they gradually assumed responsibility for the growth

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11. For a broader discussion of the relevance of universities to vocational and national needs see:

Huang, Rayson L. (ed.). *The university and the community: proceedings of the Second Asian Workshop on Higher Education, Singapore, 6–15 December 1971.* Bangkok, Association of Southeast Asian Institutions of Higher Learning (ASAIHL) Secretariat, 1971. 135 p.

Hunnings, Gordon. "Universities and relevance," *New Universities Quarterly* (London) 30(3):276–284, Summer 1976.

Edwards, E.G. "Towards a relevant university," *International Journal of Institutional Management in Higher Education* (Paris) 3(2):253-270, October 1979.

of objective knowledge. This too became a process with its own internal dynamic.

By the 1950s, it was generally accepted by academics in universities of the European tradition that their primary roles were teaching and research. Research was often justified 'for its own sake', for its contribution to a discipline or organized body of knowledge. It was also justified by the widely held belief that good teaching at university level is only possible if the teacher is personally involved in scholarship, but what passed for scholarship was often narrow and highly specialized. Recognition and advancement in the academic profession had come to depend mainly on the output of published work, but new appointments to the staff of a department were still made largely in response to increases in student numbers.[12] Thus, although specific funding for research projects became available in the 1950s and 1960s on a scale not previously experienced, the amount of research carried out in a discipline remained primarily a function of student numbers rather than of any more rational criteria.

The rapid expansion of higher education from 1956 to 1970 took place within this framework. Some new institutions were founded, some with a reforming zeal to experiment with different forms of academic organization, but these new institutions rapidly acquired the characteristics of the old. Most of the expansion in fact took place in the existing institutions. Departments grew and sub-divided; academic work became even more specialized. As institutions grew larger and more impersonal, the dual allegiance of the academic—to his institution and to his discipline—swung more heavily in favour of the latter. The task at which many departments seemed to excel, during this period, was to train their best students to become a new generation of academics!

The service concept

One important element has been absent from our consideration thus far, or, at least, has not been made explicit. Whereas academics in universities of the European tradition commonly conceptualize their roles in terms of teaching and research, their counterparts in North American institutions often include service to the community as a separate dimension. The service concept grew

12. This notwithstanding the fact that staff-student ratios were traditionally much more favourable in some faculties and departments than in others.

> . . . in response to the rapid industrial and agricultural development of the United States that attained such momentum in the middle of the last century. Universities were to assist this development through training that went beyond the creation of 'gentlemen', and of teachers, preachers, lawyers, and doctors; through research related to the technical advance of farming and manufacturing; through service to many and ultimately to almost all of the economic and political segments of society.[13]

A century later the writers of the report *Relationships between Higher Education and the Community* observed, from data collected from over 150 universities and equivalent institutions in member countries of the Organization for Economic Co-operation and Development, that there was a very deep division 'between institutions in the United States, Canada and to a lesser degree Portugal and Yugoslavia, where the "service" concept seemed self-evident, and the other cases where it appears almost scandalous'.[14]

Clearly higher education institutions render services to their communities in various ways. Most obviously, through teaching and research, they produce graduates and new knowledge; these may be thought of as services of the first order. But teaching and research may also result in the provision of services indirectly, services of the second order. For example, the need to train students in practical skills in such fields as dentistry, law and psychology may result in clinical services being provided for members of the public; costly equipment purchased for scientific research may be made available for use by industry in testing and analytical work. Such second order services, as they grow and develop in response to community needs, may come to be justified not by teaching or research, but by other criteria.

There are some notable recent examples of acceptance of responsibility for second order service functions by universities of the European tradition. Thus between 1965 and 1970 three quarters of

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13. Kerr, Clark. *The uses of the university: with a "postscript–1972."* Cambridge, Mass., Harvard University Press, 1972. vii, 166 p.

14. OECD/CERI. *Relationships between higher education and the community: general report.* Paris, Centre for Educational Research and Innovation, Organization for Economic Co-operation and Development, 1978. 216 p. (mimeo).

the university institutions in Britain established some formal activity to co-ordinate and increase the amount of work for industry undertaken in universities. During this period there was considerable pressure from industry and government for universities to do so and to put to use the 'substantial resources that had been built up during the 1960s'[15]

Mechanisms for change

Such examples of change, though important, should not be overrated. Typically the institution creates a small, discrete entity, such as an industrial liaison unit, which has both catalytic and supporting functions. Members of staff appointed to a new industrial liaison unit aim to interest their colleagues from the regular departments in undertaking consulting and applied research, and provide practical assistance, such as helping to negotiate contracts with clients, to facilitate such work. Analogous special purpose units, for such functions as instructional development,[16] have been created by many universities. As a strategy to promote change, the creation of such units has both strengths and weaknesses. It provides a focus for the new activity quickly and cheaply, with little threat to ongoing work or existing interests. But to the extent that the new unit stands outside the regular structures within which decisions are made, its influence on practice is informal, gradual, and may be limited.

The creation of a discrete unit with catalytic and supporting functions lies in some respects intermediate between the reorganization of existing structures and the creation of new structures. The reorganization of existing structures is fraught with difficulties and, especially in time of plentiful resources, the preferred strategy for change has been the creation of the new. So it was with one of the most remarkable innovations of recent years, the British Open University.

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15. Spikins, David. "Interfacing with industry: Loughborough Consultants Ltd.," in Teather, David C.B. (ed.). *Towards the community university: case studies of innovation and community service.* London, Kogan Page/ New York, Nichols Publishing, 1982. p. 158–172, 244 p.

16. Teather, David C.B. (ed.). *Staff development in higher education: an international review and bibliography.* London, Kogan Page/New York, Nichols Publishing, 1979. 336 p.

Towards a new equilibrium?

In the 1960s there was increasing pressure in Britain for the creation of opportunities and support for adults to study for degree credit on a part-time basis. Universities in Britain, with one or two exceptions, had hitherto made little provision for such study and, with the rapid expansion of opportunities for younger students, intergenerational inequity became more pronounced. At this time ideas of continuing education were gaining ground, and the growing provision of television gave impetus to the use of broadcasting for educational purposes. In the event, the Open University enrolled its first students in 1970 and taught them using specially prepared course material delivered by a novel blend of pre-existing services—television, radio, correspondence, and face-to-face contact with local tutors.

The British Open University provides one example of a widespread trend, the creation of new structures based on new technologies of instruction.[17] But its success in providing part-time courses for degree credit must be seen in the light of the need for that facility at that time in that country. Nevertheless, the Open University has pointed the way towards the resolution of several of the key problems which faced higher education systems of the European tradition in the 1970s. Thus it attracts a rather higher proportion of students from the lower social classes than do other British universities.[18] It is unashamedly a teaching institution and, because its teaching materials are subject to public scrutiny, they are academically sound, relevant to students' needs and attractively produced. In a sense the Open University has set new standards in teaching, both for distance teaching and for traditional universities.

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17. Teather, David C.B. and J. Peter McMechan. "Learning from a distance: a variety of models," in Howe, Anne (ed.). *International yearbook of educational and instructional technology 1980/81.* London, Kogan Page/New York, Nichols Publishing, 1980. p. 52–71, 603 p.

18. McIntosh, N.E. and A. Woodley. "The Open University and second chance education," *Paedagogica Europaea* (Amsterdam) 9(2):85–100, 1974.

_____ . *The door stood open: an evaluation of the Open University younger students pilot scheme.* Lewes, Falmer Press, 1980. vii, 261 p., appendices.

_____ . and Val. Morrison. "Student demand and progress at the Open University—the first eight years," *Distance Education* (Melbourne) 1(1): 37–60, 1980.

Like academics elsewhere, those at the Open University undertake personal research. But because of the way in which its teaching is organized, the Open University employs only one-seventh the number of full-time academic staff that would be required to teach an equivalent number of students in a conventional British university.[19] Thus, while from the perspective of the individual staff member the relationship between teaching and research is unchanged, one would expect the total amount of research undertaken by Open University staff to be approximately one-seventh of that undertaken by staff teaching a comparable number of students at conventional universities.

However, even this drastic difference has little effect on the balance between the teaching, research and service functions of the British higher education system as a whole. Today about one university student in every six enrolled in Britain is enrolled at the Open University. A similar proportion of university students study at a distance in Australia and New Zealand. Although gaining in importance, distance learning as yet plays a minor part in the total higher education systems of these countries. Other potentially significant innovations of recent years, such as degree programmes which emphasize the development in students of transferable skills rather than discipline-based content,[20] affect only a tiny proportion of students. Overwhelmingly the higher education systems of these countries retain the traditional characteristics described earlier in this article.

In some of the countries of the Asian and Pacific region the situation is becoming quite different. For example, in Thailand a single institution, Ramkhamhaeng University, was chartered in 1971 and by 1976 was admitting four times the number of students as were being admitted by the 12 other university institutions in the country.[21]

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19. By 1975, approximately 300 academics were employed full-time by the Open University and approximately 50,000 students were enrolled part-time. To teach an equivalent number of full-time students at a conventional British university would require approximately 2,000 academic staff.

20. Burgess, Tyrrell. *Education after school.* London, Gollancz, 1977. 256 p.

Percy, Keith and Paul Ramsden. *Independent study: two examples from English higher education.* Guildford, Society for Research into Higher Education, 1980. vii, 79 p.

21. Udom Warotamasikkhadit and Donald A. Leuschel. "Open education: experiments and experiences in countries of the region: Thailand," *Bulletin of the Unesco Regional Office for Education in Asia and Oceania,* Bangkok. (19):95-104, June 1978.

It was enabled to do so because its teaching and examining procedures were designed to use the very latest technology. In the East Asia region, the Open College of the University of East Asia Macau, a new institution with considerable potential for growth, is teaching through course materials obtained in the first instance from distance teaching institutions in Britain and New Zealand. At least during the early stages of its development, the divorce between teaching and research will be almost complete. By adopting ready-made courses and negotiating agreements for credit transfer, the Open College will acquire immediate international recognition of its standards, a factor of particular importance to its clientele.[22]

Those countries which wish to expand the provision of higher education, to satisfy social demand and/or to fulfil manpower planning requirements, and at the same time choose to restrict expenditure on higher education, will find methods associated with distance learning increasingly attractive. Systems can be designed which are economical and yet provide educational programmes of high quality for large numbers of students. An added advantage, as some Australian universities are beginning to demonstrate, is that the planning and production of distance learning materials can be a particularly fruitful field for inter-institutional co-operation.[23]

Rapid and large scale application of new ideas occurs where needs are perceived as urgent and the old solutions as manifestly impractical. By these criteria it will be in some countries of Asia and the Pacific that we shall see—and indeed, as the examples quoted above from Thailand and Hong Kong indicate, are now seeing—wholesale transformation of higher education systems. New technologies of instruction are making possible new patterns of organization. New balances are being struck between the teaching, research and service functions of higher education. The existing, traditional institutions are being retained, and in some cases modestly expanded; but by the end of this century they may well provide only a small, though distinctive, part of the total provision. □

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22. Professor D. Swift, personal correspondence.

23. Professor J.D. Chick, personal correspondence. See also the account of a workshop on regional co-operation in Crump, Peter and Kevin Livingston, (eds.). *Proceedings of the fifth biennial forum of the Australian and South Pacific External Studies Association, Suva, 31 August–4 September 1981.* Suva, Extension Services, University of the South Pacific, 1981. p. 113–134 and 143–150.

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SECTION FOUR

BIBLIOGRAPHICAL SUPPLEMENT

Bulletin of the Unesco Regional Office
for Education in Asia and the Pacific
Number 24, April 1983

BIBLIOGRAPHY
ON
HIGHER EDUCATION IN ASIA AND THE PACIFIC

This bibliography is a selection of titles from the holdings in the library of the Unesco Regional Office for Education in Asia and the Pacific. The titles are publications of the last five years published largely in the region and by Unesco.

The Educational Documentation and Information Service (EDIS) of the Unesco Regional Office for Education in Asia and the Pacific will appreciate being notified of documents of Asia and the Pacific on and related to higher education in the region published within the last five years which are not included in the bibliography. Better still, readers may wish to send the actual documents to Unesco EDIS, Bangkok.

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The Bulletin was established in 1966, then published twice annually from 1967 to 1972. It is now an annual publication. Special issues were published in January and December 1982. Each issue contains a bibliographical supplement. Copies of Numbers 21, 22 and 23 of the Bulletin, and the Special Issues are still available. All previous issues are out of print but may be consulted in libraries.

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